ORDER NO. MD9810154C1

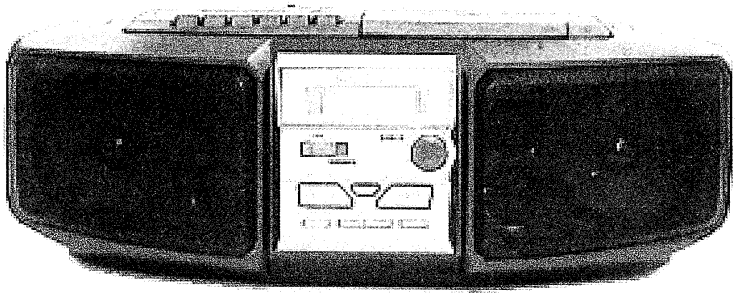
Service Manual

Portable Stereo CD System

MASH* multi-stage noise shaping

COMPACT disc DIGITAL AUDIO

RX-DS5



Colour

(S) . . . Silver Type

Area

Suffix for Model No.	Area	Colour
(P)	U.S.A.	(S)
(PC)	Canada.	

TAPE SECTION : SG20 Mechanism Series
CD SECTION : RAE0152Z-M Traverse Deck Series

* MASH is a trademark of NTT.

■ Specifications

■ RADIO

Frequency range	
FM	87.9 - 107.9 MHz (200 kHz steps) 87.5 - 108.0 MHz (100 kHz steps)
AM	520 - 1710 kHz (10 kHz steps)
Intermediate frequency	
FM	10.7 MHz
AM	450 kHz
Sensitivity	
FM	20 dB / 0.5 mW
AM	53 dB / 0.5 mW

■ CD PLAYER

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source	Semiconductor laser (wavelength 780 nm)
No. of channels	2 channels, stereo
Wow and flutter	Less than possible measurement data
Digital filter	4 fs
D/A converter	MASH (1bit DAC)

■ TAPE RECORDER

Track system	4 track, 2 channel, stereo
Monitor system	Variable sound monitor
Recording system	AC bias
Erasing system	Multi Pole magnet
Tape speed	4.8 cm/s
Frequency range (Normal position)	50 -12000 Hz

■ General

Speakers	10 cm (4") 4Ω x 2
Jacks output	PHONES : 3.5 mm stereo (32 Ω)
Power consumption	14 W
Power supply	
AC	120 V, 60 Hz
Batteries	9 V (Six R20/LR20,D,UM-1 batteries) •Do not use rechargeable type batteries.
Memory back-up	6 V (Four R6/LR6, AA,UM-3 batteries •Do not use rechargeable type batteries.
Dimensions (W x H x D)	456 x 167 x 266 mm (17 15/16" X 6 9/16" X 10 15/32")
Weight	3.1 kg (6 lb 13 oz) without batteries

Notes : Specifications are subject to change without notice. Weight and dimensions are approximate.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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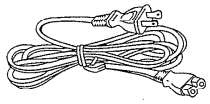
■ Accessories



AC power cord

■ Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body. So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).

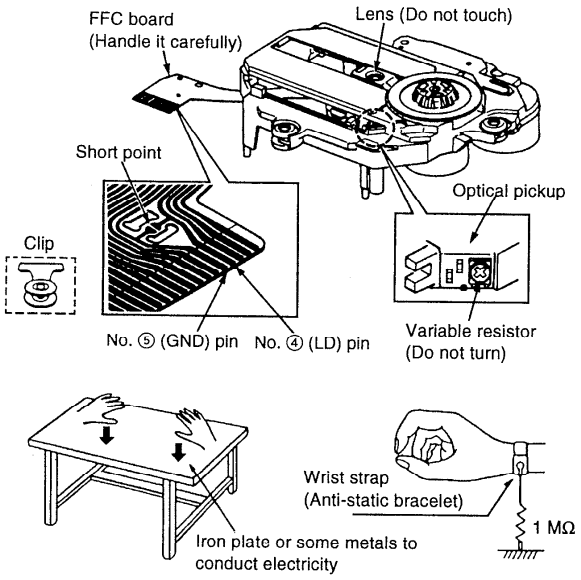
- **Handling of traverse deck (optical pickup)**

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. The short land between the No.4 (LD) and No.5 (GND) pins on the flexible boards (FPC) is shorted with a solder build-up to prevent damage to the laser diode.
   To connect to the PC board, be sure to open by removing the solder build-up, and finish the work quickly.
3. Take care not to apply excessive stress to the flexible board (FFC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

- **Grounding for electrostatic breakdown prevention**

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conducive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

Caution:
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).



BATTERY SERVICE LIFE
UM-1 (D - size) Batteries
Approx. 28 hours of Radio Recording (EIAJ).
Approx. 14 hours of Tape Playback (EIAJ).
Approx. 10.5 hours of CD Recording (EIAJ).
Approx. 9.5 hours of CD Playback (EIAJ).

The battery service life is measured according to the conditions set forth by EIAJ (Eelectronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

■Safety Precaution (This "Safety Precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

- **INSULATION RESISTANCE TEST**

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch .
3. Measure the resistance value with ohmmeter between the jumper AC plug and each exposed metal cabinet part, such as screwheads, antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts* . (Fig. 1) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. 2)
   *Note : Some exposed parts may be isolated from the chassis by design. These will read infinity.
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

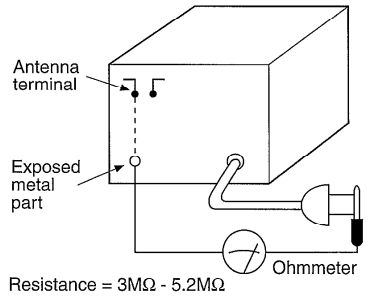


Fig. 1

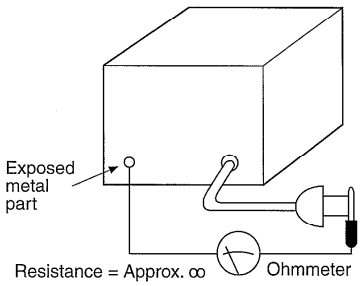
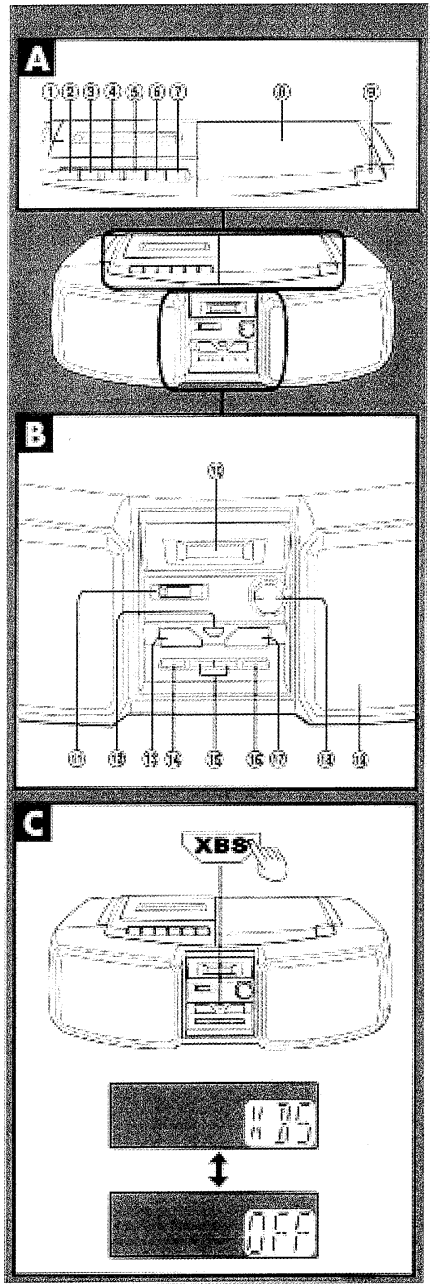


Fig. 2

■ Precaution of Laser Diode

CAUTION : This unit utilizes a class 1 laser. Invisible laser radiation is emitted from the optical pick up lens.
When the unit is turned on :

1. Do not look directly into the pick up lens.
2. Do not use optical intrusments to look at the pick up lens.
3. Do not adjust the preset variable resistor on the pick up lens.
4. Do not disassemble the optical pick up lens.
5. If the optical pick up is replaced, use the manufacturer's specified replacement pick up only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.



Location of controls

A

Number	Designation
①	Deck (Recording/playback)
②	Recording button (● REC)
③	Playback button (▶ PLAY)
④	Rewind/review button (◀◀ REW/REV)
⑤	Fast forward/cue button (▶▶ FF/CUE)
⑥	Stop/eject button (■/⏏ STOP/EJECT)
⑦	Pause button (II PAUSE)
⑧	CD lid
⑨	CD lid open button (⏏ CD)

B

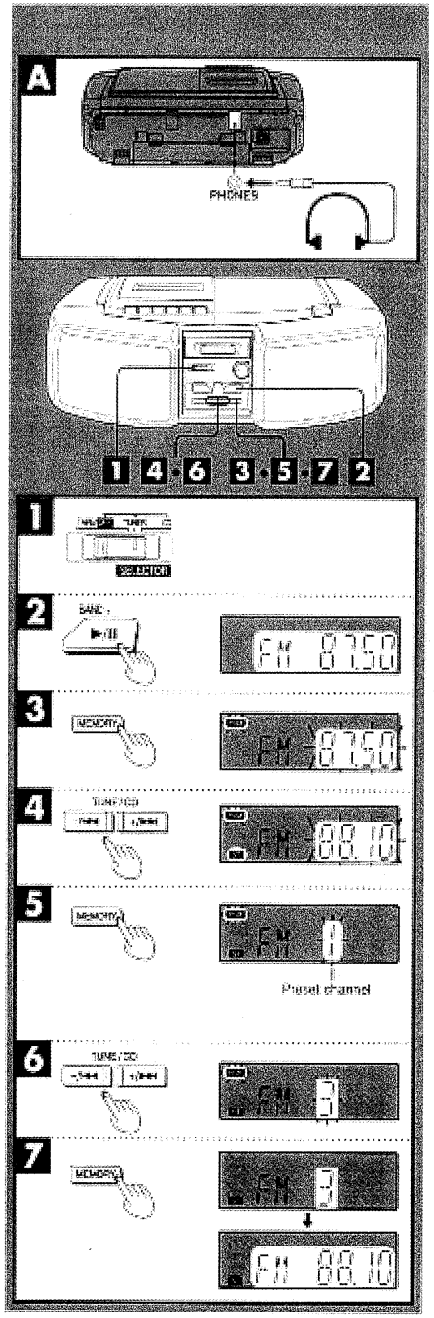
⑩	Display panel
⑪	Function selector (SELECTOR) The function selector switch does not separate entire unit from mains even if in "TAPE/OFF" position.
⑫	XBS button (XBS)
⑬	CD stop/program clear, stereo/monaural button (■/CLEAR, FM MODE)
⑭	Tuning mode, CD play mode select button (TUNE MODE, CD PLAY MODE)
⑮	Tuning/CD skip, search buttons (–/◀◀, +/▶▶)
⑯	CD program, tuner preset button (MEMORY)
⑰	CD play/pause, band select button (▶II, BAND)
⑱	Volume control (VOLUME)
⑲	Speaker

Changing the sound quality

Adjusting the deep-bass (XBS) C

When the XBS level control is adjusted, the level of the dynamic low frequency sound range is boosted.

Press [XBS].
Every time you press the button: XBS ↔ OFF



To listen through headphones (not included) A

Turn down the volume and connect the headphones to the [PHONES] jack.

Plug type : 3.5 mm stereo

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

Presetting radio broadcasts

- Up to ten FM and AM stations each can be programmed.
- If broadcast frequencies are stored in the memory, you can easily tune in any of these frequencies.
- You can preset just those stations you like.

1 Set [SELECTOR] to "TUNER".

2 Press [BAND] to select "FM" or "AM".
Every time you press the button: FM ↔ AM

3 Press [MEMORY].
"PRM" and the frequency flash.

4 While "PRM" and the frequency are flashing:
Press [–/◀◀] or [+/▶▶] to select the desired station.
"ST" lights when an FM stereo program is being received.

Reference

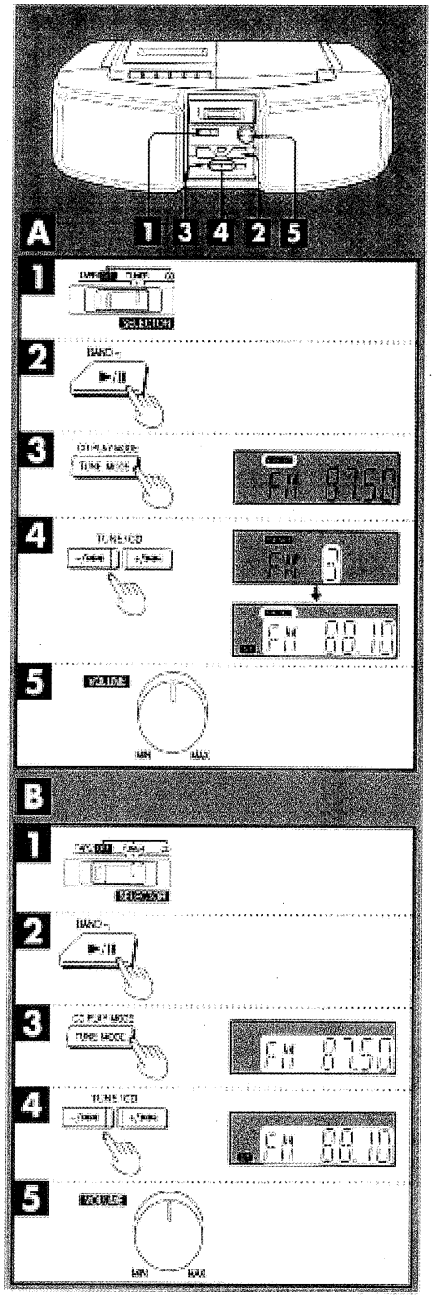
You can select the desired broadcast by using "Automatic tuning".

5 Press [MEMORY].
"PRM" and the preset channel number flash.

6 While "PRM" and the preset channel number are flashing:
Press [–/◀◀] or [+/▶▶] to select the preset channel.

7 Press [MEMORY].
If the "PRM" indicator goes off during programming, return to step **3**.

8 Repeat steps **3** to **7** to program other stations.



Listening to radio broadcasts

Listening to programmed stations (Preset tuning) A

Make sure you have completed the procedure for "Presetting radio broadcasts".

1. Set [SELECTOR] to "TUNER".
2. Press [BAND] to select "FM" or "AM".
   Every time you press the button: FM ↔ AM
3. Press [TUNE MODE] to display the preset indicator.
   The unit is set to the preset tuning mode.
4. Press [–/◀◀] or [+/▶▶] to select the preset channel.
5. Adjust the volume.

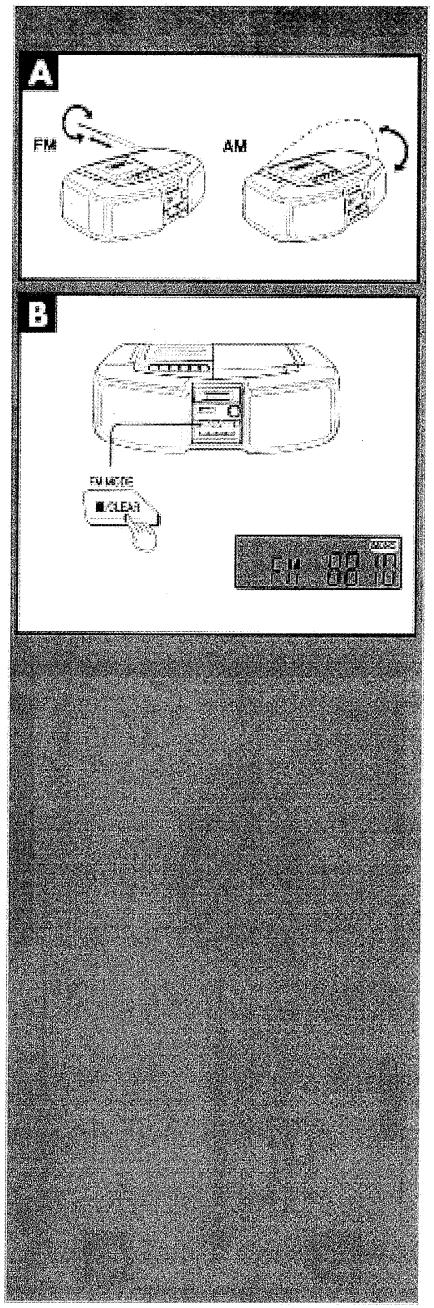
Listening to broadcast stations which have not been programmed (Manual tuning) B

1. Set [SELECTOR] to "TUNER".
2. Press [BAND] to select "FM" or "AM".
   Every time you press the button: FM ↔ AM
3. Press [TUNE MODE] to clear the preset indicator.
   The unit is set to the manual tuning mode.
4. Press [–/◀◀] or [+/▶▶] to tune in the station.
5. Adjust the volume.

Automatic tuning:
This is a simple way of tuning in stations that have not been preset. Keep [–/◀◀] or [+/▶▶] depressed, and release it when the frequency display starts to change. A station with good reception is automatically selected and the selection process then stops.
To stop automatic tuning, press [–/◀◀] or [+/▶▶] again.

Hint
Automatic tuning may stop without a station having been tuned in when interference is encountered on neighbouring airwaves. In such a case, tune in a station by tapping [–/◀◀] or [+/▶▶].

To turn off the unit:
Set [SELECTOR] to "TAPE/OFF".
If the tape is travelling, press [■/≙ STOP/EJECT] to exit.



Listening to radio broadcasts

Adjusting the antennas A

For FM reception:
Pull out the telescopic antenna and adjust its length and angle for optimum reception.

For AM reception:
Turn the unit in the direction which gives the best results.

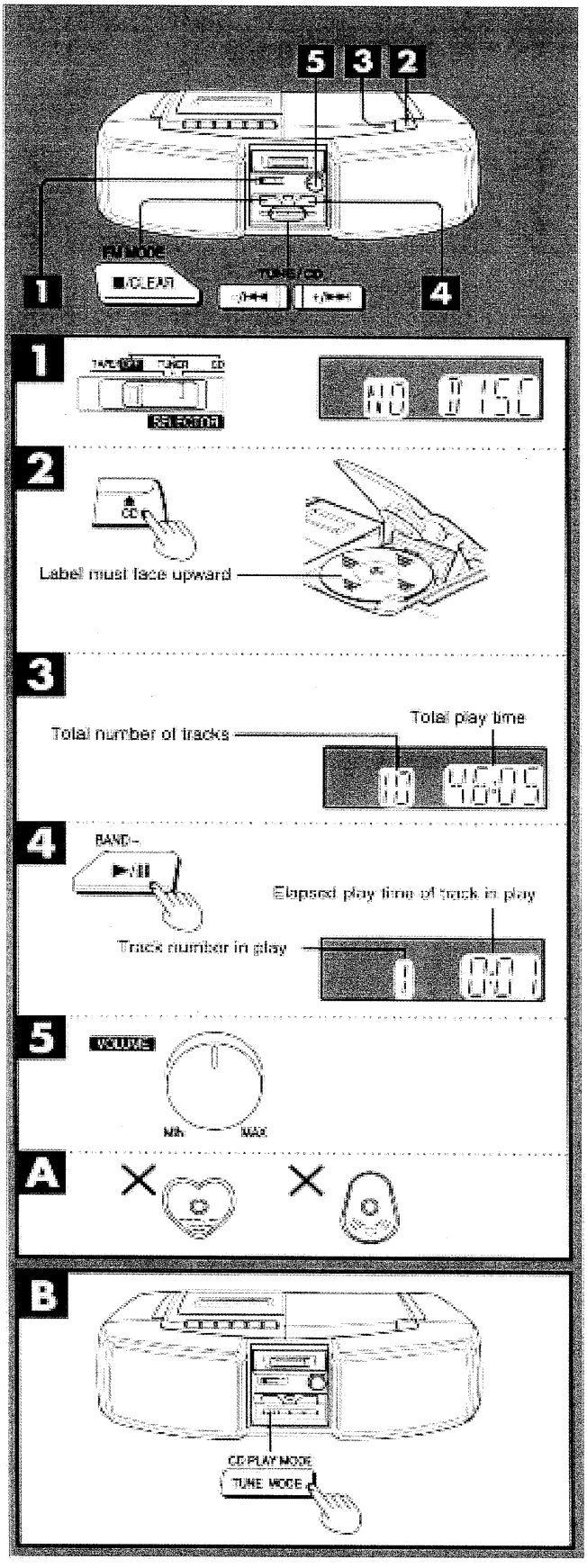
Reference
Radio broadcasts may be hard to receive in a moving vehicle or in a building because the signal may be weakened. In such cases, use the unit near a window.

When there is a lot of noise in an FM stereo broadcast B

Reduce the interference by setting the sound to monaural.

Example:
When an FM stereo program is being received;
Press [FM MODE].
"MONO" is displayed.

To return to stereo reception, repeat the same procedure to turn off the "MONO" display.



Listening to CDs

Sequential play

1 **Set [SELECTOR] to "CD".**
"NO DISC" appears when no CD is loaded.

2 **Press [≜ CD], then insert the CD.**

3 **Press [• • • CLOSE] to close the CD lid by hand.**
The total number of tracks and total play time of the CD are displayed.

4 **Press [►/II] to start play.**
Play starts from the first track and continues to the last track, after which it automatically stops.

5 **Adjust the volume.**

To stop the disc:
Press [■/CLEAR].

To pause	Press [►/II] during playback. To resume playback, press [►/II].
To search forward/ backward	Hold down [–I◄◄] (backward) or [–►►I] (forward) during playback or pause mode.
To skip forward/ backward	Press [–I◄◄] (backward) or [–►►I] (forward).

Notes

- If interference occurs to radios or televisions, place the unit as far as possible from this equipment.
- Do not press [≜ CD] during play, pause or immediately after when you inserted the CD and closed the CD tray. CD may be scratched.

To prevent damage A
Do not use irregular shape CDs.

To turn off the unit:
Set [SELECTOR] to "TAPE/OFF".
If the tape is travelling, press [■/≜ STOP/EJECT] as well.

Repeat play and random play

Press [CD PLAY MODE] before or during play. B
Every time you press the button:

1 → [1] → [ALL] → [RANDOM] → (off)

Press [►/II] to begin play if you are in the stop mode.

To repeat just one track:
Press [CD PLAY MODE] to select "1".

To repeat all tracks:
Press [CD PLAY MODE] to select "ALL".

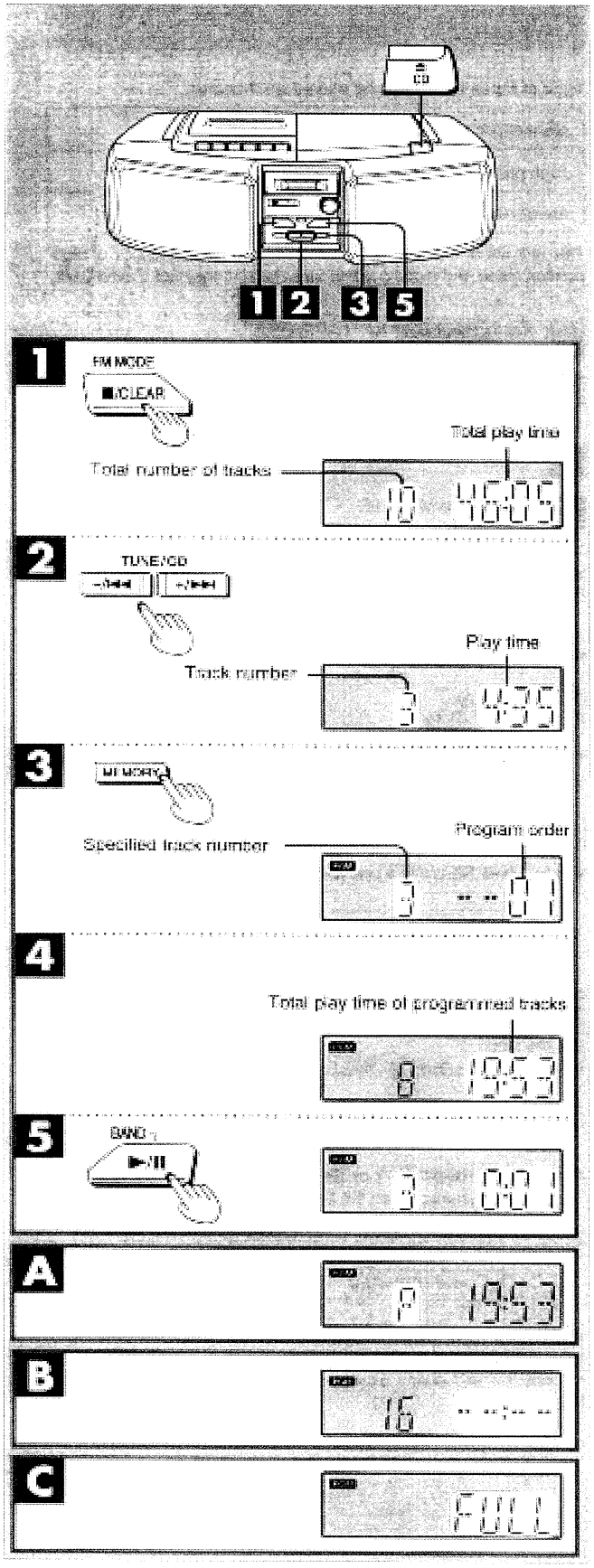
To start random play:
Press [CD PLAY MODE] to select "RANDOM".
All tracks on the loaded CD will be played in random order. Playback will stop automatically when all tracks have been played.

To cancel repeat play and random play:
Press [CD PLAY MODE] to clear "1", "ALL" and "RANDOM".
Pressing [≜ CD] also cancels repeat function and random function.

To repeat programmed tracks:
1. Program desired tracks (steps 1 to 4 on page 9).
2. Press [CD PLAY MODE] to display "ALL".
3. Press [►/II] to begin play.

Notes

- During random play, you cannot skip to tracks which have already been played.
- During random play, you can search forward or backward only within the current track.
- Random play cannot be used in combination with program play.



Listening to CDs

Program play

You can program up to 24 tracks.

Before operation:

- Set [SELECTOR] to "CD".
- Program play cannot be used in combination with random play. When "RANDOM" is displayed, press [CD PLAY MODE] to clear the display.

1 **Press [■/CLEAR].**
The total number of tracks and total play time of the CD are displayed.

2 **Press [–/◄◄] or [+/►►I] to select the desired track.**

3 **Press [MEMORY].**
"PGM" is displayed.

4 **Repeat steps 2 and 3 until you have programmed all the tracks you want.**

5 **Press [►/II].**
Play will start in the programmed sequence.

When all programmed tracks have been played, "P" and the total play time will be displayed. A

To cancel program play:
Press [■/CLEAR] in the stop mode to display "CLR".
Pressing [≙ CD] will cancel program function.

When "– –:– –" appears: B
This means that the total play time of the programmed tracks has exceeded 100 minutes. Tracks can still be programmed and played.

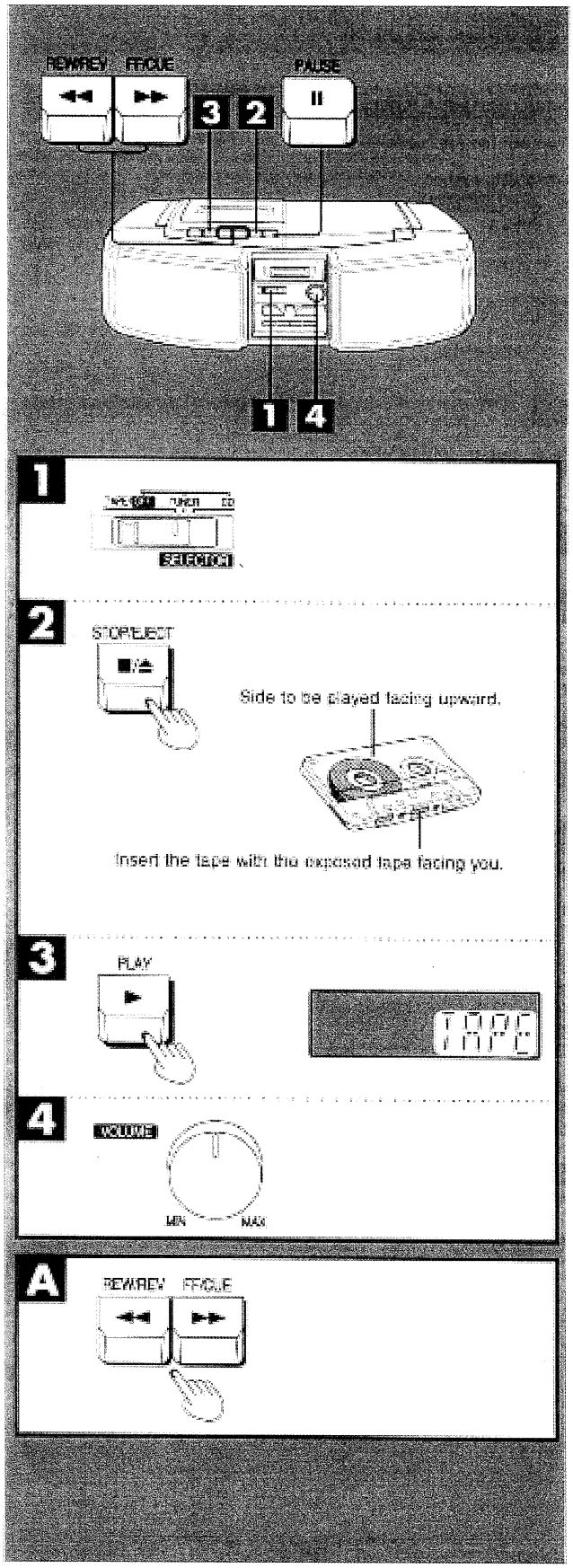
When "FULL" appears: C
The number of programmed tracks is limited to 24. No further tracks can be programmed.

To check what has been programmed:
Press [–/◄◄] or [+/►►I] when "P" is displayed at the end of the program play.
The display will show the track number and programmed sequence.

Memory retention of programmed tracks:
The memory retains the program even if play is stopped or the unit is turned off.

Notes

- During program play, you can search forward or backward only within the current track.
- During program play, skipping is always in the programmed order, whether forward or backward.



Listening to tapes

Type of tapes which can be played on this unit:

Normal position/TYPE I	○
High position/TYPE II	×
Metal position/TYPE IV	×

This unit will not be able to do full justice to characteristics of high-position tapes and metal position tapes even if they are played back.

1 Set [SELECTOR] to "TAPE/OFF".

2 Press [■/⏏ STOP/EJECT], load the tape and close the tape lid.

3 Press [► PLAY] to start play.

4 Adjust the volume.

To stop play:
Press [■/⏏ STOP/EJECT].

To stop play temporarily:
Press [II PAUSE].

To resume play:
Press [II PAUSE] again.

The unit's power is on in the pause mode. Stop tape and turn the unit off by pressing [■/⏏ STOP/EJECT] when leaving the unit.

To fast-forward or rewind the tape A

Press [◄◄ REW/REV] or [►► FF/CUE] in the stop mode.

To rewind	To fast-forward
◄◄ REW/REV	►► FF/CUE

Note

Do not press [►PLAY] when rewinding or fast forwarding, as this may jam the tape.

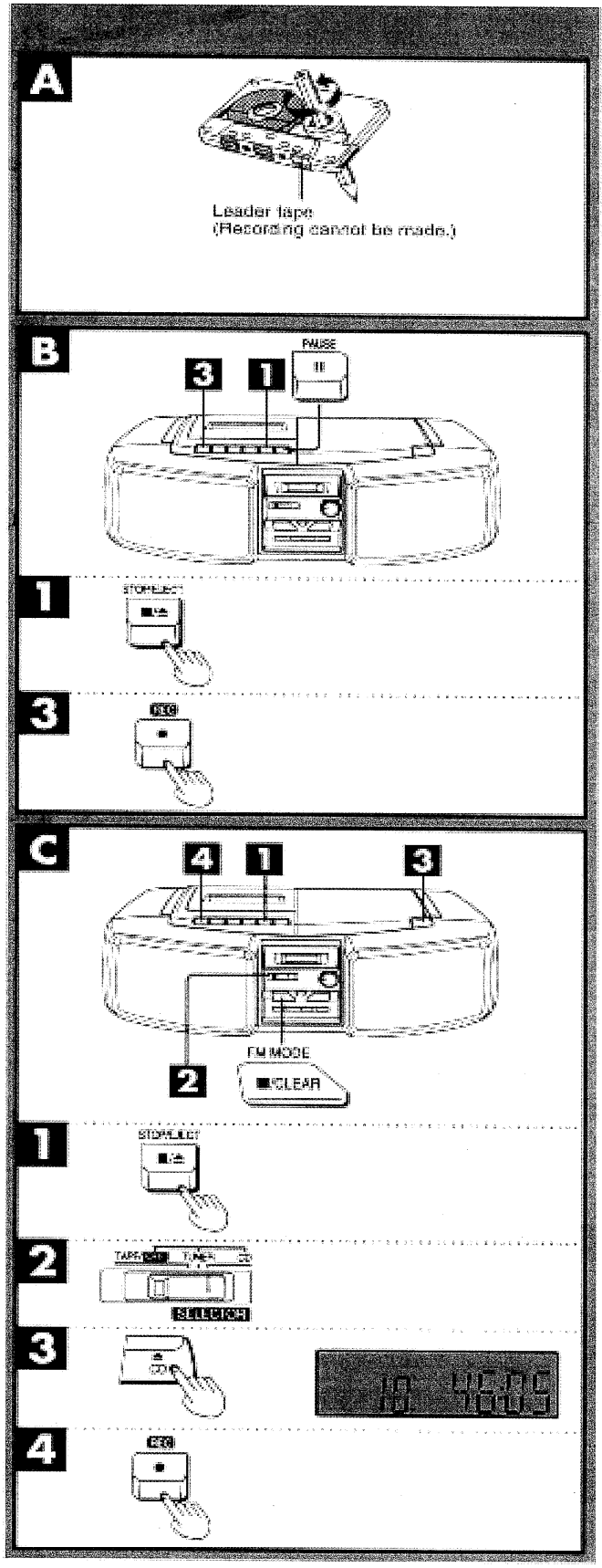
Be sure to press [■/⏏ STOP/EJECT] before the next operation.

To find a particular spot on a tape A

Press [◄◄ REW/REV] or [►► FF/CUE] during playback.
Tape play is resumed when the button is released.

To search backward	To search forward
◄◄ REW/REV	►► FF/CUE

Full auto-stop:
The automatic stop system will release the buttons when the tape reaches the end during play or when recording, fast forwarding or rewinding.



Before recording

To take up the leader tape: A

Only normal tapes can be used.
The sound may not be recorded properly if high position tapes and metal position tapes are used with this unit.

References

- Any changes made to the volume or sound quality during recording will not affect the recording.
- In order to prevent trouble caused by flat batteries, it is recommended that you either supply power to the unit from the household AC outlet or replace all the batteries with new ones when you are recording something which is important to you.
- The recording level is set automatically.

Note

If the unit is brought near a TV set during recording, noise may be recorded due to the effects of the signals from the TV unit. Maintain a distance of at least 1.5 metres between the unit and a TV set.

To make a blank tape:

1. Load the recorded tape with the side to be erased facing upward.
2. Set [SELECTOR] to "TAPE/OFF".
3. Press [● REC].
   [► PLAY] is also depressed with [● REC].

Your attention is drawn to the fact that recording pre-recorded tapes or discs or other published or broadcast material may infringe copyright laws.

Recording from radio broadcasts B

1 **Press [■/⏏ STOP/EJECT] and load the tape.**
Load the tape with the side to be recorded facing upward.

2 **Tune in the station.**

3 **Press [● REC] to start recording.**
[► PLAY] is also depressed with [● REC].

To stop the recording:
Press [■/⏏ STOP/EJECT].

To stop the recording temporarily:
Press [II PAUSE].
To resume recording, press [II PAUSE] again.

Recording from CDs C

1 **Press [■/⏏ STOP/EJECT] and load the tape.**
Load the tape with the side to be recorded facing upward.

2 **Set [SELECTOR] to "CD".**

3 **Press [⏏ CD] and insert the CD.**
The total number of tracks and total play time of the CD are displayed.

4 **Press [● REC] to start recording.**
[► PLAY] is also depressed with [● REC].
CD play starts simultaneously.

To stop the recording:
Press [■/CLEAR] and [■/⏏ STOP/EJECT].

Recording favourite tracks

1. Program desired tracks (refer to steps 2 to 4 on page 9) after step 3.
2. Press [● REC] to start recording.
   [► PLAY] is also depressed with [● REC].

■ Operation Checks

"ATTENTION SERVICER" Some chassis components may have sharp edges. Be careful when disassembling and servicing.

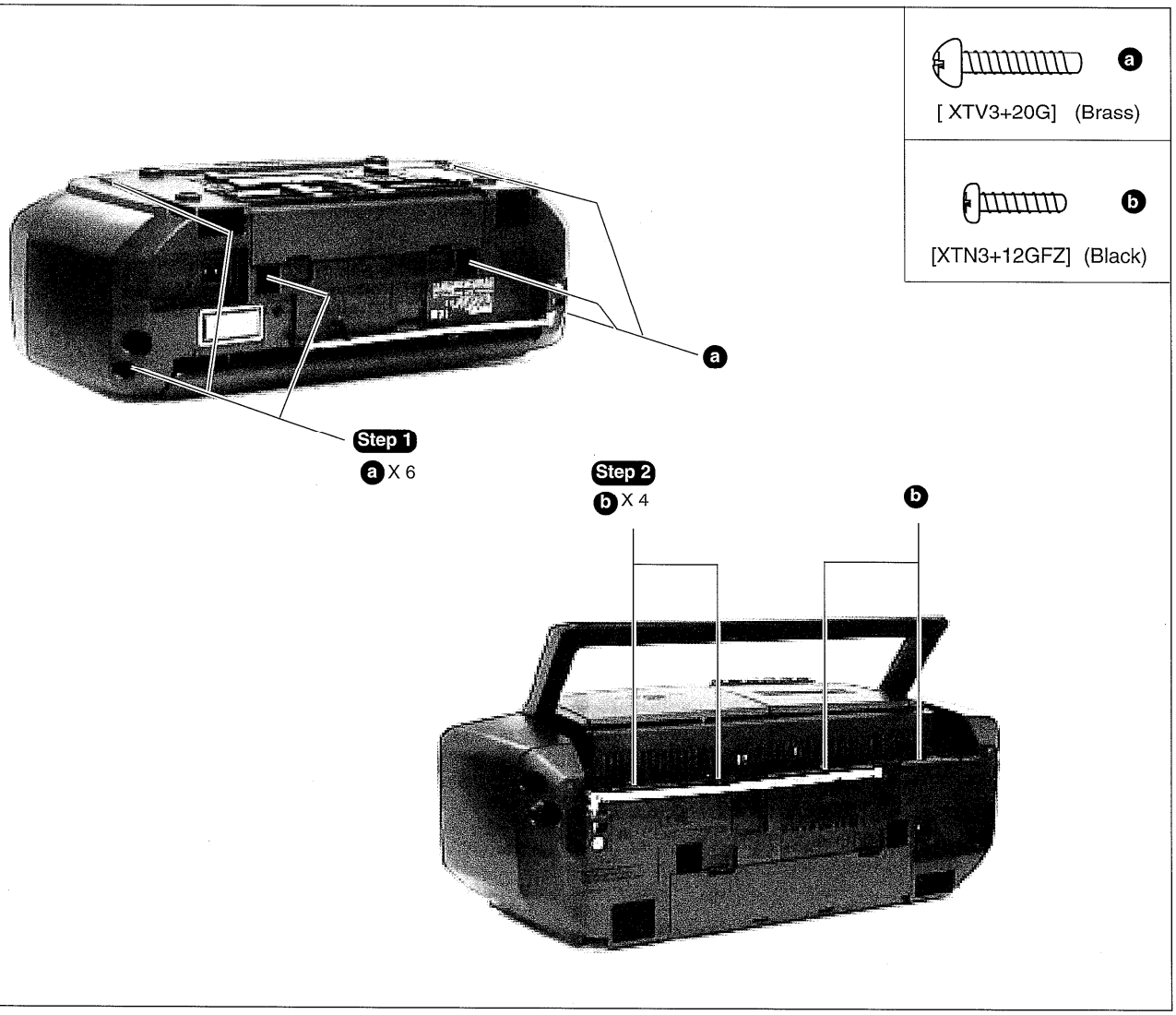
1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**

• Contents

page
• **Checking Procedure For Each Major P.C.B.** ..... 10 ~11

Warning : This product uses a laser diode. Refer to caution statement on page 3.

■ Checking Procedure For Each Major P.C.B.

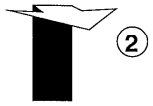


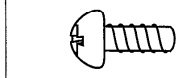
Step 3

Pull out the front cabinet slightly in the direction of the arrow (1) to remove the cable to (CP302) before pulling it all out.

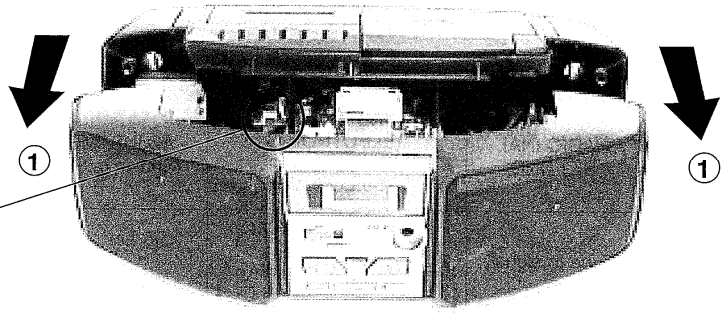
Step 4

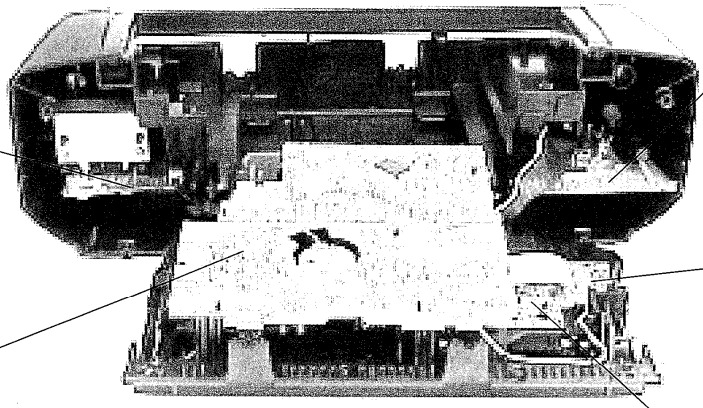
Pull up the top cabinet in the direction of the arrow (2) to remove the top cabinet.





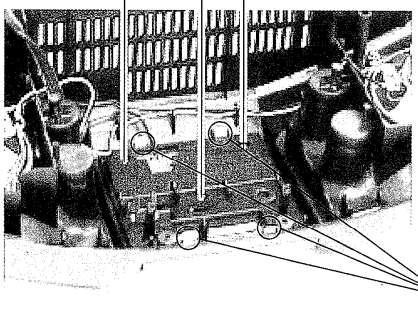
c [XTV26+10G] (Brass)





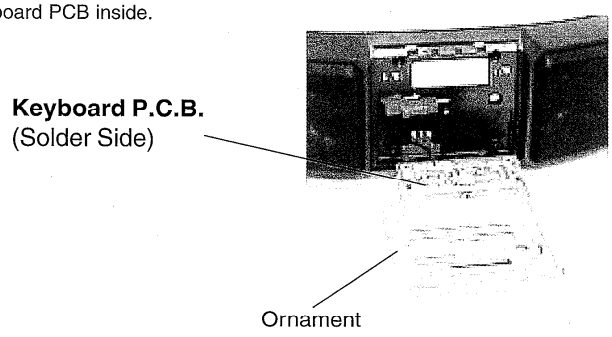
Step 5

c X 3



Step 6

Release the claws to detach the ornament. Hence, check the keyboard PCB inside.



■ Measurements and Adjustments

● Tuner Section

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT
Measuring Condition 1. Set volume control to maximum. 2. Set power source voltage to 9V DC. 3. Output of signal generator should be no higher than necessary to obtain an output reading. Note: No AM IF and FM STEREO alignment is necessary as Tuner IC is used.

■ AM - RF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in **Fig.1**)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate signal into the loop ant. of receiver.	540 kHz	Tune to signal	Headphone Jack (32Ω) (Fabricate the plug as shown in **Fig. 2** and then connect the lead wires of the plug to the measuring instrument.)	L3 (AM ANT Coil)	Adjust for maximum output.
"	1400 kHz	"	"	CT1 (AM ANT Trimmer)	Adjust for maximum output.

● Cassette Deck Section

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT
Measuring Instruments • Digital frequency counter **Test Tape** • Tape speed adjustment (3kHz, – 10 dB) : QZZCWAT **Measuring condition** • Make sure the heads are clean. • Make sure the capstan and pressure roller are clean. Note: No Azimuth Head Alignments is required due to Aztec Head is used in the cassette mechanism.

● Tape Speed Specification

TEST TAPE	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
QZZCWAT (3 kHz, –10dB)	Headphone Jack (32Ω) (Fabricate the plug as shown in **Fig. 2** and then connect the lead wires of the plug to the measuring instrument.)	—	3000 ± 60 Hz	Playback mode

● ALIGNMENT POINTS

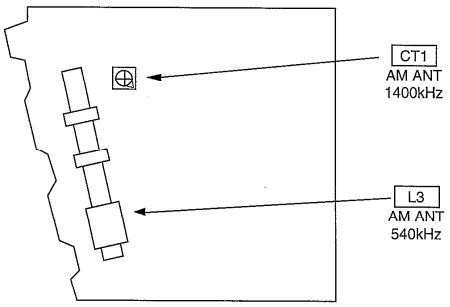


Fig. 1

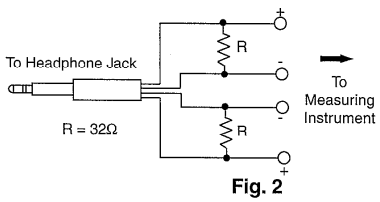


Fig. 2

■ Terminal Guide of ICs, Transistors and Diodes

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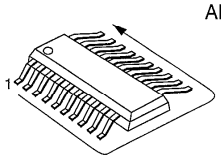
AN8780NSBE2 (28p)
LC72131D (22p)
  </td>
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 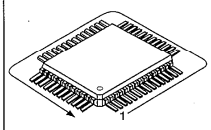 </td>
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 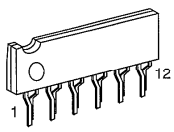 </td>
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 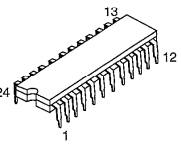 </td>
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 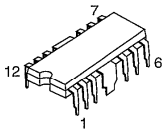 </td>
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 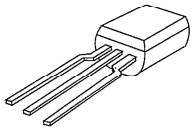 </td>
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 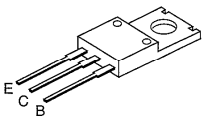 </td>
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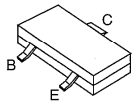
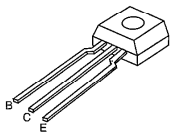
  </td>
<td colspan="2"> 
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 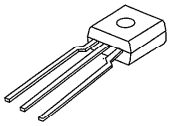 </td>
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 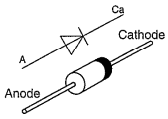 </td>
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 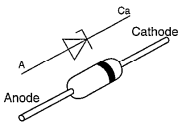 </td>
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 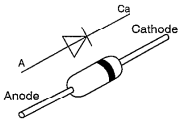 </td>
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■ Terminal Function Of IC's

• IC703 (AN8780NSBE2) Focus coil / tracking coil / traverse motor / spindle motor drive

Pin No.	Mark	I/O	Function
1	RESET OUT	O	Reset output
2	NC	-	-
3	IN2	I	Motor driver 2 input
4	PC2	I	Power out 2 input
5	NC	-	-
6	IN1	I	Motor driver 1 input
7	PVCC1	I	Power supply for Driver 1
8	PGND1	-	Ground for Driver 1
9	NC	-	-
10	D1-	O	Motor driver 1(-) output
11	D1+	O	Motor driver 1(+) output
12	D2-	O	Motor driver 2(-) output
13	D2+	O	Motor driver 2(+) output
14	D3-	O	Motor driver 3(-) output
15	D3+	O	Motor driver 3(+) output

Pin No.	Mark	I/O	Function
16	D4-	O	Motor driver 4(-) output
17	D4+	O	Motor driver 4(+) output
18	NC	-	
19	PGND2	-	Ground for Driver 2
20	PVCC2	I	Power supply for Driver 2
21	VCC	I	Power supply
22	VREF	I	Reference voltage
23	IN4	I	Motor driver 4 input
24	IN3	I	Motor driver 3 input
25	RESET IN	I	Reset input
26	NC	-	
-	FIN	-	Ground

• IC701 (AN8837SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDE	I	Tracking signal input 1
2	PDF	I	Tracking signal input 2
3	VCC	I	Power supply
4	PDA	I	Focus signal input 1
5	PDB	I	Focus signal input 2
6	LPD	I	APC Amp. Input
7	LD	O	APC Amp. Output
8	RF	O	RF addition output
9	RFIN	I	RF signal input
10	CSBRT	-	Capacitor for OFTR connection terminal
11	CEA	-	HPF Amp.
12	BDO	O	BDO output
13	LDON	-	APC control
14	GND	-	Ground

Pin No.	Mark	I/O	Function
15	RFDET	O	NRFDET output
16	CROSS	O	CROSS output
17	OFTR	O	OFTR output
18	VDET	O	VDET output
19	ENV	O	3 TENV output
20	ENVOFF	-	ENV control
21	TEBPF	I	VDET input
22	TEIN	I	TE Amp. input
23	TEOUT	O	TE Amp. output
24	FEOUT	O	FE Amp. output
25	FEIN	I	FE Amp. input
26	VREF	O	Reference voltage output
27	TBAL	-	TBAL control
28	FBAL	-	FBAL control

• IC702 (MN662746RPK1) Servo processor / digital signal processor / digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Bit clock for SRDATA
2	LRCK	O	L,R discriminatory signal "H": Lch audio data, "L": Rch audio data
3	SRDATA	O	Serial data output
4	DVDDI	I	Power supply for digital circuit
5	DVSSI	I	Ground for digital circuit
6	TX	O	Digital/ Audio/ Interface signal output
7	MCLK	I	Microcomputer/ Command/ Clock signal
8	MDATA	I	Microcomputer/ Command/ Data signal input
9	MLD	I	Microcomputer/ Command/ Load signal input "L": Load
10	SENSE	O	Sense signal output (OFT, FESL, NACEND, NWTEND, DATA)
11	/FLOCK	O	Focus/ Servo drawback signal "L": drawback
12	/TLOCK	O	Switching command, Tracking/ Servo drawback,
	/VDET		Vibration detect signal "L": drawback "H": detection
13	BLKCK	O	Subcode/Block/Clock signal (fBLKCK=75Hz)
14	SQCK	I	Clock signal for Subcode Q register
15	SUBQ	O	Subcode Q data output
16	DMUTE	I	Muting input "H": mute
17	STAT	O	Status signal (CRC, RESY, CLVS, TTSTOP, SQOK, FLAG6, SENSE,/FLOCK,/TLOCK)
18	/RST	I	Reset input "L": reset
19	SMCK	O	MSEL=at "H" clock signal 8.4672MHz output MSEL=at "L" clock signal 4.2336MHz output
20	PMCK	O	Clock signal 88.2KHz output
21	TRV	O	Test terminal (this terminal should be opened)
22	TVD	O	Drive and forced drive for Traverse output
23	PC	O	Spindle motor ON output "L": ON
24	ECM	O	Spindle motor driving signal (forced mode)
25	ECS	O	Spindle motor driving signal (servo error signal)

Pin No.	Mark	I/O	Function
26	KICK	O	Test terminal (Hi-z fixed)
27	TRD	O	Tracking drive and Kick pulse output
28	FOD	O	Focus drive output (TVD, ECS, TRD, FOD, FBAL, TBAL, DSLF2)
29	VREF	I	Reference voltage (TVD, ECS, TRD, FOD, FBAL, TBAL, DSLF2)
30	FBAL	O	Focus balance adjustment output
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input (analog input)
35	VDET	I	Test terminal (fixed to VDD or VSS)
36	OFT	I	Off track signal input "H": off track
37	TRCRS	I	Test terminal (fixed to VDD or VSS)
38	/RFDET	I	RF detection signal input "L": detection
39	BDO	I	Dropout signal input "H": dropout
49	LDON	O	Laser ON signal output "H": on
41	TES	O	Tracking error shunt signal output "H": shunt
42	PLAY	O	Play signal output "H": play
43	WVEL	O	Double speed status signal output "H": double speed
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	Bias for DSL
47	DSLF	I/O	Loop filter for DSL
48	PLLF	I/O	Loop filter for PLL
49	DSLF2	O	DSL unbalance current correction
50	AVDD2	I	Power supply for analog circuit (DSL, PLL, DA output, AD)
51	AVSS2	1	Ground for analog circuit (DSL,PLL,DA output,AD)
52	EFM/CK384	0	Switching command signal • EFM signal output • 16.9344 MHz clock output
53	PCK	0	PLL sampling clock output fPCK=4.3218MHz

Pin No.	Mark	I/O	Function
54	CK176	O	176.4KHz clock output
55	SUBC	O	Subcode serial output
56	SBCK	I	Clock for subcode serial output
57	VSS	I	Ground for oscillation circuit
58	X1	O	Crystal oscillation circuit input f=16.9344MHz
59	X2	O	Crystal oscillation circuit output f=16.9344MHz
60	VDD	I	Power supply for oscillation circuit
61	TRVSTP	O	Traverse STOP signal "H": STOP mode
62	/CLDCK	O	Subcode frame clock signal fCLDCK=7.35KHz
63	FCLK	O	Crystal frame clock signal fFCLK=7.35KHz
64	IPFLAG	O	Compensation flag signal "H":compensation
65	FLAG	O	Flag signal output
66	CLVS	O	Spindle servo phase syncronizing signal output "H": CLV "L": rough servo
67	CRC	O	Sub-code CRC checked output "H": OK "L": NG
68	RESY	O	Frame resyncronizing signal output "H": syncronized "L": out of syncronizing
69	FLAG6	O	Flag6 output "L": address reset
70	ARST	I	Test terminal usually "H"
71	/TEST	I	Test terminal normally "H"

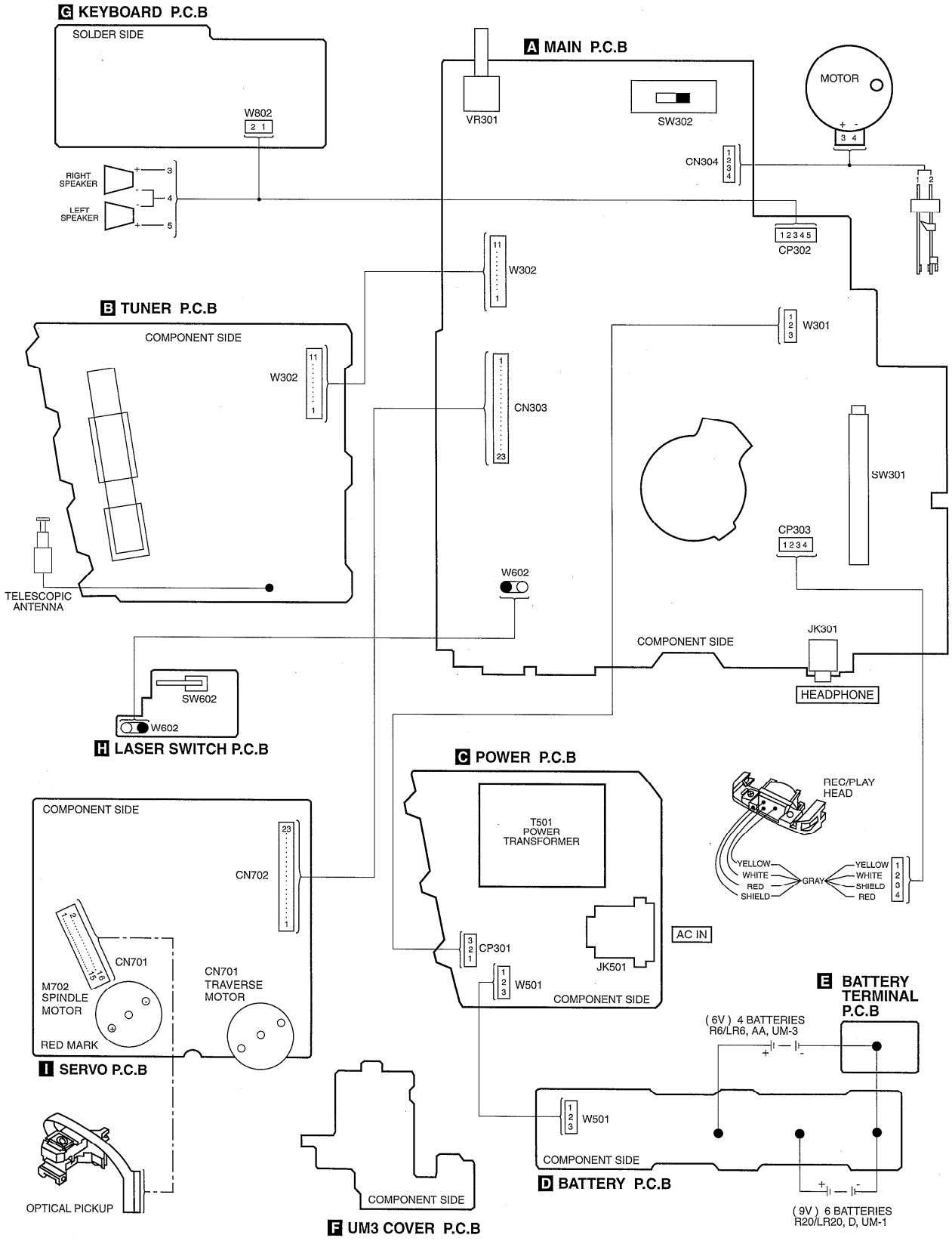
Pin No.	Mark	I/O	Function
72	AVDD1	I	Power supply for analog circuit
73	OUTL	O	Lch audio output
74	AVSS1	I	Ground for analog circuit
75	OUTR	I	Rch audio output
76	RSEL	I	RF signal polarity assignment input at "H" level RSEL="H", at "L" level RSEL="L"
77	FSEL	I	Noise filter on/off switching input "H": filter off "L": filter on
78	PSEL	I	Switching command input • Test terminal (normally:"L") • SRDATA input
79	MSEL	I	Switching command input • Switching frequency of SMCK output "H":SMCK=8.4672MHz "L":SMCK=4.2336MHz • LRCK input (SMCK=4.2336MHz fixed) "H": Lch data "L": Rch data
80	SSEL	I	Switching command input • Switching mode of SUBQ terminal "H": Q code buffer mode "L": CLDCK syncronized mode • BCLK input (Q code buffer mode fixed)

• IC601 (M38223M4M156) System microprocessor

Pin No.	Mark	I/O	Function
1	VLCD2	I	LCD bias reference voltage input V2
2	VLCD1	I	LCD bias reference voltage input V1
3	KEY1	I	KEY input 1
4	TUNER/BAND	I	TUNER/BAND Key input
5	REG2	I	Area setting input 2
6	REG1	I	Area setting input 1
7	R.CTL	O	Remote control power control signal output
8	P.DET	I	SW VCC voltage detection input
9	T.MUTE	O	TUNER FUNCTION & MUTE output
10	PLL DO	I	PLL IC DATA input
11	PLL DATA	O	PLL IC DATA output
12	PLL CLK	O	PLL IC CLK output
13	PLL CE	O	PLL IC CE output
14	REC H	O	REC detect signal output
15	B.P1	O	AM Rec. beat proof output 1
16	DECK MUTE	O	DECK MUTE output
17	D PLAY/PAUS	I	CD PLAY/PAUSE key input
18	REM IN	I	Remote control signal input
19	AC DET	I	AC Power detection input
20	SQCK	O	CD subcode clock output
21	P.CNT	O	Power control output
22	SUBQ	I	CD subcode data input
23	MTRL	I	Deck motor detection input
24	BLK CK	I	CD subcode block clock input
25	MEGA	-	Not used
26	Vcc DET	I	Vcc detection input (main power detection)
27	RESET	I	System reset signal input
28	X OSC IN	I	Crystal oscillator input (32.768kHz)
29	X OSC OUT	O	Crystal oscillator output (32.768kHz)
30	OSC IN	I	Clock input (4.19kHz)

Pin No.	Mark	I/O	Function
31	OSC OUT	I	Clock output (4.19kHz)
32	VSS	-	GND
33	MBP1	O	Beatproof control signal output 1
34	MBP2	O	Beatproof control signal output 2
35	MUTE A	O	Audio Mute output A
36	CD L	O	CD power control output
37	CLOSE SW	I	CD close detection switch input
38	STAT	I	CD status signal input
39	CD RESET	I	CD reset signal output
40	REST SW	I	CD limit switch input
41	MCLK	O	CD clock control signal output
42	MDATA	O	CD data control signal output
43	MLD	O	CD loading control signal output
44	VOL DATA	O	PMW data signal output for electric volume circuit (IC604)
45	VOL CLK	O	PMW clock signal output for electric volume circuit (IC604)
46	TONE1	O	Tone control output 1
47	TONE2	O	Tone control output 2
48	S.V	O	Sound Virtualizer control output
49 I 51	NC	-	Not used
52 I 72	SEG0 I SEG20	O	LCD segment signal output
73	Vcc	I	Power supply (+5V)
74	VREF	I	A/D converter reference voltage
75	AVSS	-	GND
76 I 79	COM3 I COM0	O	LCD common signal output
80	VLCD3	I	LCD bias reference voltage input V3

■ Wiring Connection Diagram



Schematic Diagram

		Page
A	MAIN CIRCUIT	18-19
B	TUNER CIRCUIT	24
C	POWER CIRCUIT	23
D	BATTERY CIRCUIT	23
E	BATTERY TERMINAL CIRCUIT	23
G	KEYBOARD CIRCUIT	23
H	LASER SWITCH CIRCUIT	23
I	CD SERVO CIRCUIT	20-21

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

- S701 : CD rest switch
- SW301 : Record/playback switch
- SW302 : Selector switch
- SW501 : AC Inlet switch (JK501)
- SW602 : CD leaf switch
- SW801 : REV / skip switch
- SW802 : FWD / skip switch
- SW803 : FM Mode / Stop / Clear switch
- SW804 : Band select / CD play / Pause switch
- SW805 : Play / Tune Mode switch
- SW806 : Memory Program switch
- SW807 : Tone Select (XBS) switch
- VR301 : Volume control

- **Battery current :**

			Measurement Instruction
Vol. min.	106 mA	(RADIO)	RADIO : AM - 74 dB/m , 30% Mod.
	151 mA	(TAPE)	FM - 60 dB/M , 30% Mod.
	260 mA	(CD)	TAPE : 315 Hz , 0 dB
Vol. max.	310 mA	(RADIO)	CD : 1 kHz , 0 dB
	520 mA	(TAPE)	
	940 mA	(CD)	

- **Signal line**

: +B Line
: FM/AM Signal Line
: AM Signal Line
: AM OSC Signal Line
: Main Signal Line
: FM Signal Line
: Record Signal Line
: CD Signal Line
: Playback Signal Line

- The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
  Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

< > : FM ( ) : AM No mark : Playback (( )) : CD

- **Importance safety notice:**
  Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.

- Cover the parts boxes made of plastics with aluminium foil.
- Ground the soldering iron.
- Do not touch the pins of IC, LSI or VLSI with fingers directly.
- Put a conductive mat on the work table.

CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE **F501 , F502 1.25A 125V FUSE.**

RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION

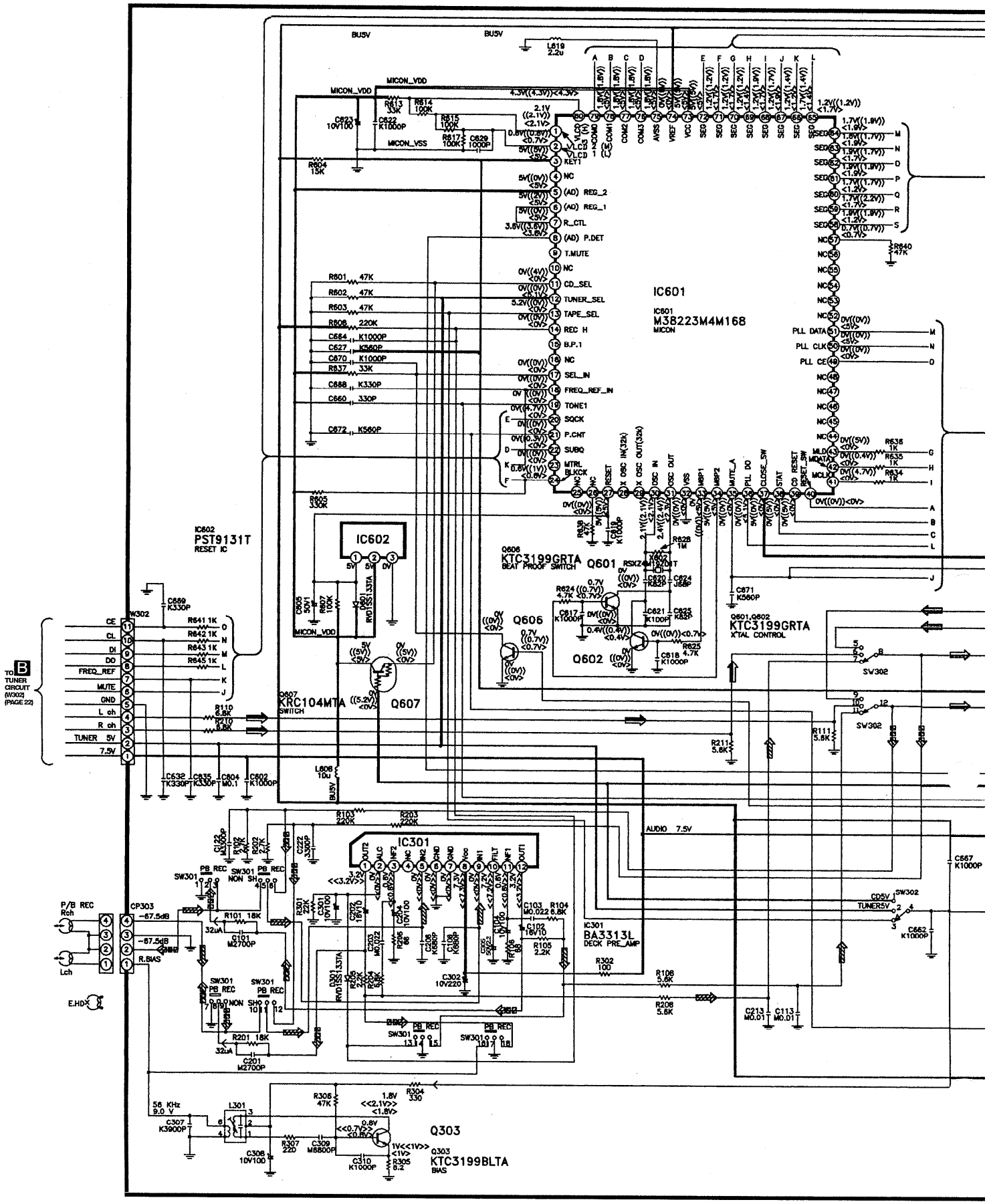
These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

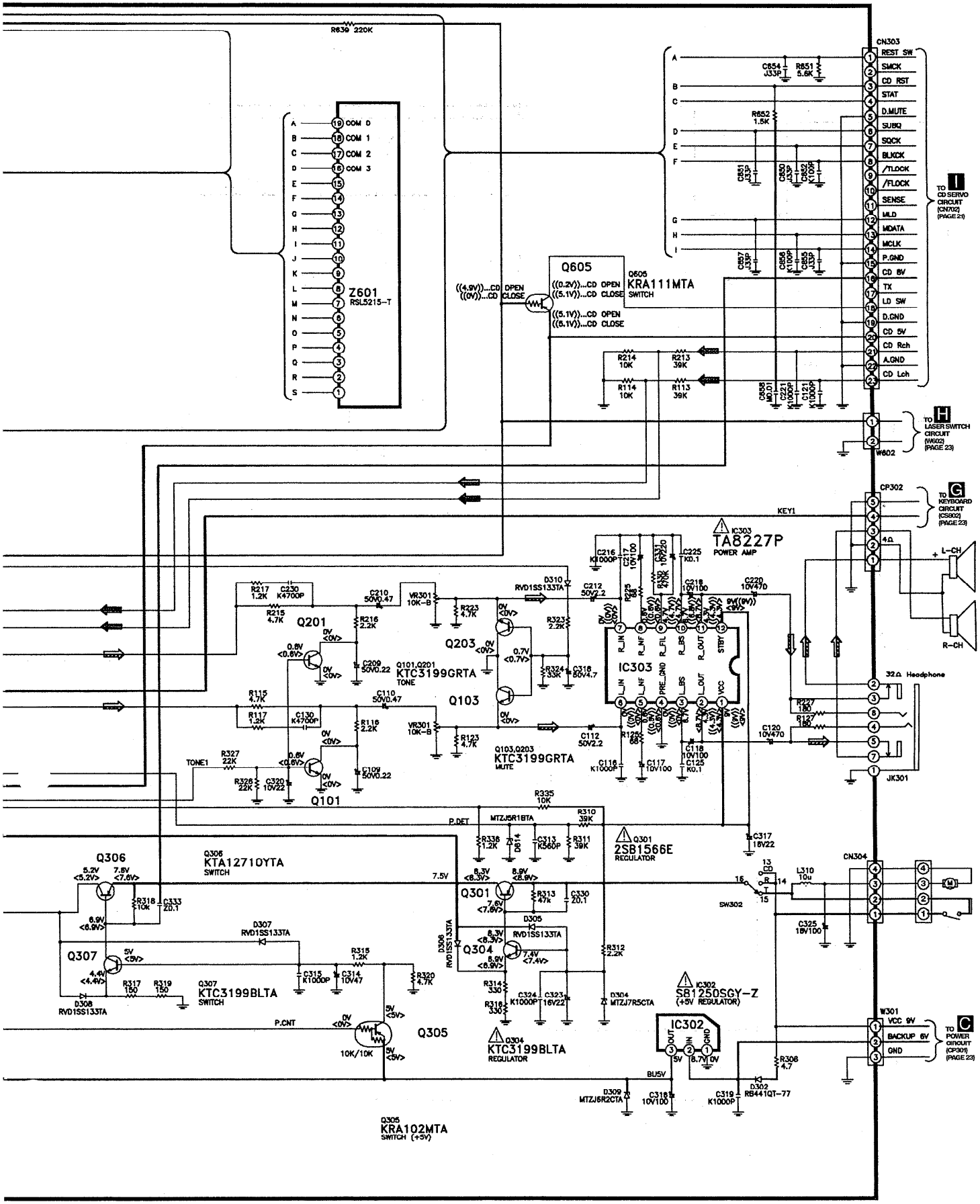
A MAIN CIRCUIT

(P.C.BOARD ON PAGE 24)

: +B line
: Main signal line
: Record signal line
: FM/AM signal line
: CD signal line
: Playback signal line

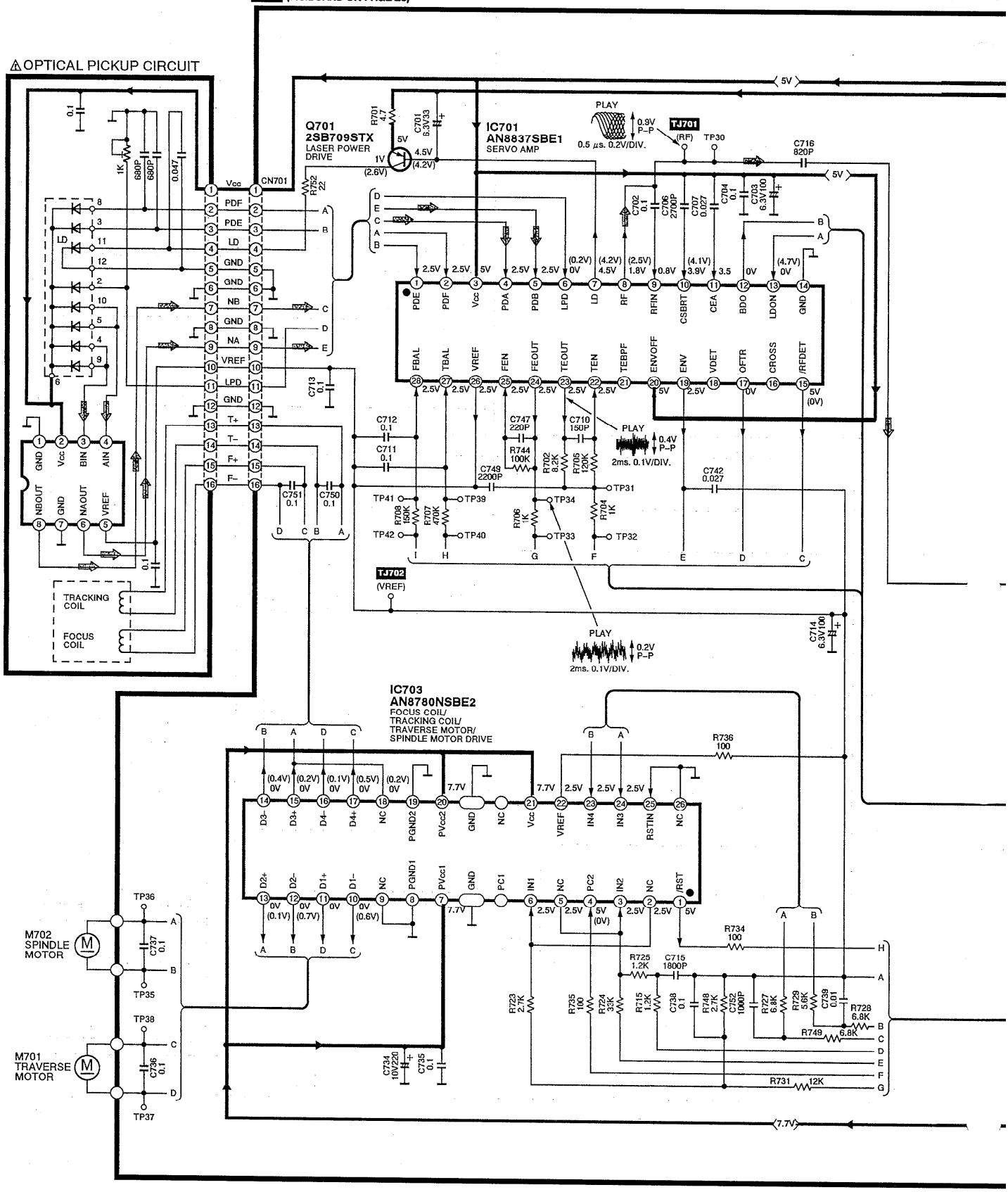


—— : +B line ⇨ : Main signal line ⇨ : CD signal line

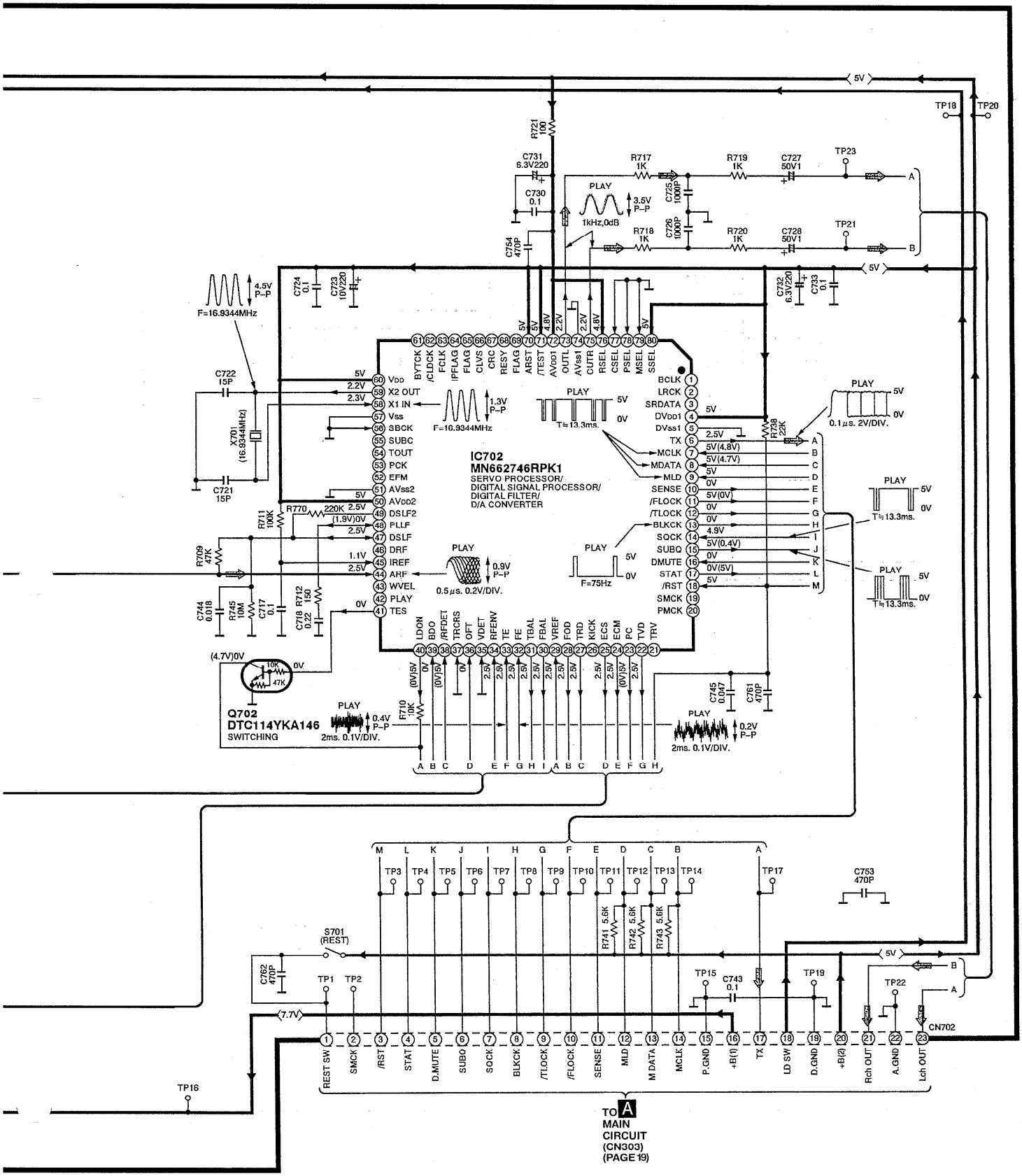


: +B signal line : CD signal line

I CD SERVO CIRCUIT
(P.C.BOARD ON PAGE 26)



—— : +B signal line ⇒ : CD signal line

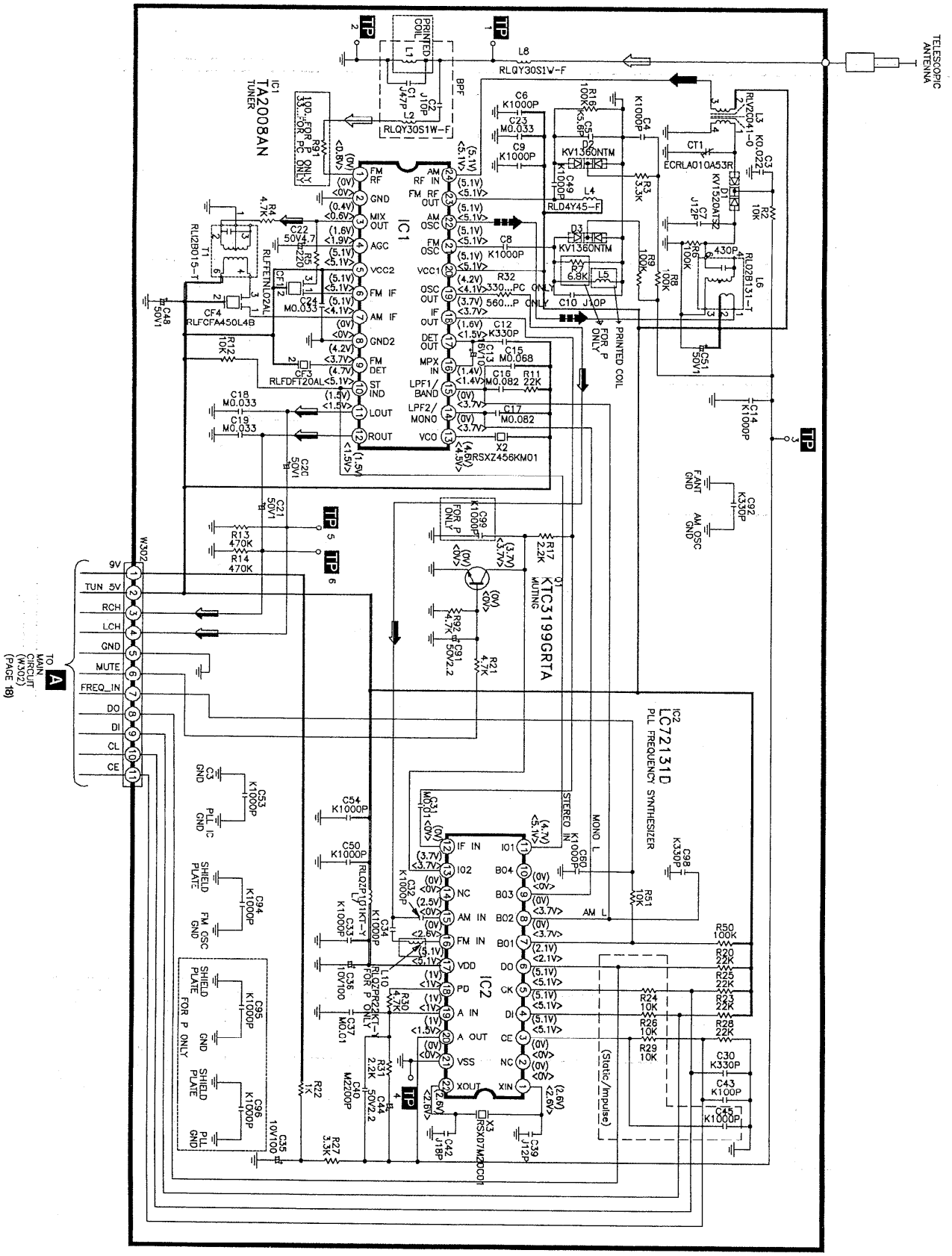


——: +B line ⇨: FM signal line ➡: AM signal line

■■➡: AM OSC signal line ⇨: FM/AM signal line

B TUNER CIRCUIT

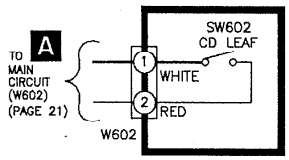
(P.C.BOARD ON PAGE 25)



——— : +B line

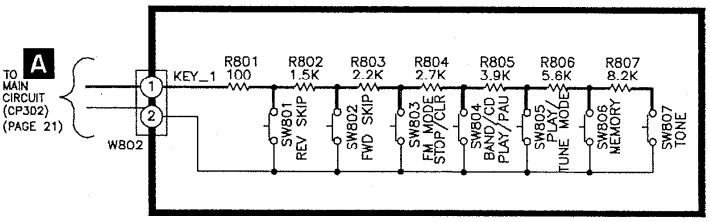
H LASER SWITCH CIRCUIT

(P.C.BOARD ON PAGE 26)



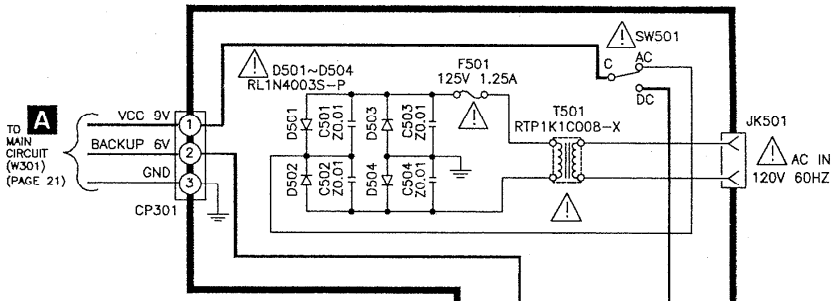
G KEYBOARD CIRCUIT

(P.C.BOARD ON PAGE 27)



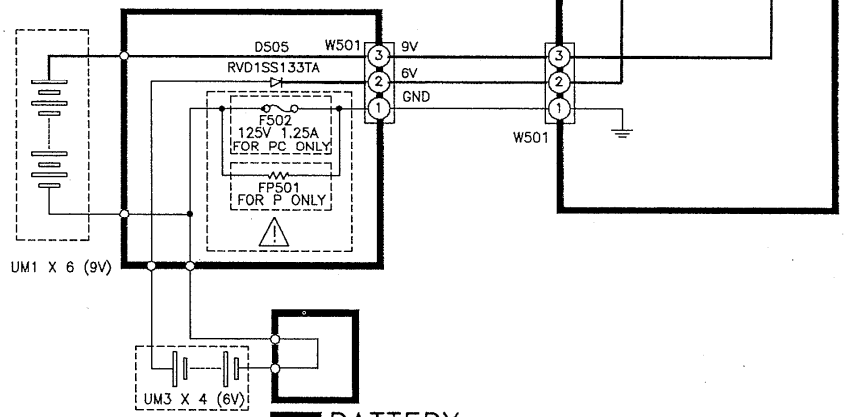
C POWER CIRCUIT

(P.C.BOARD ON PAGE 26)



D BATTERY CIRCUIT

(P.C.BOARD ON PAGE 27)

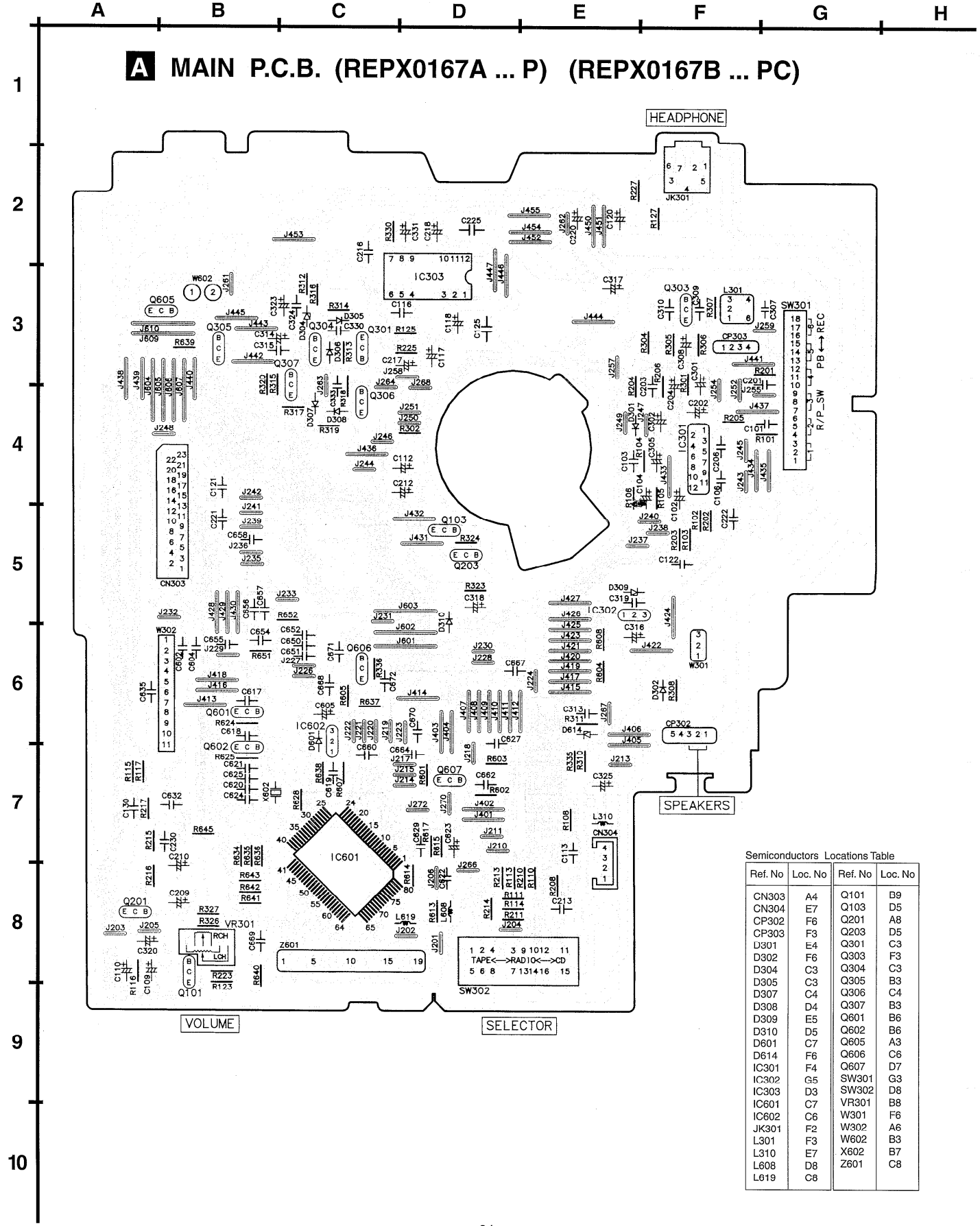


E BATTERY TERMINAL CIRCUIT

(P.C.BOARD ON PAGE 27)

Printed Circuit Board

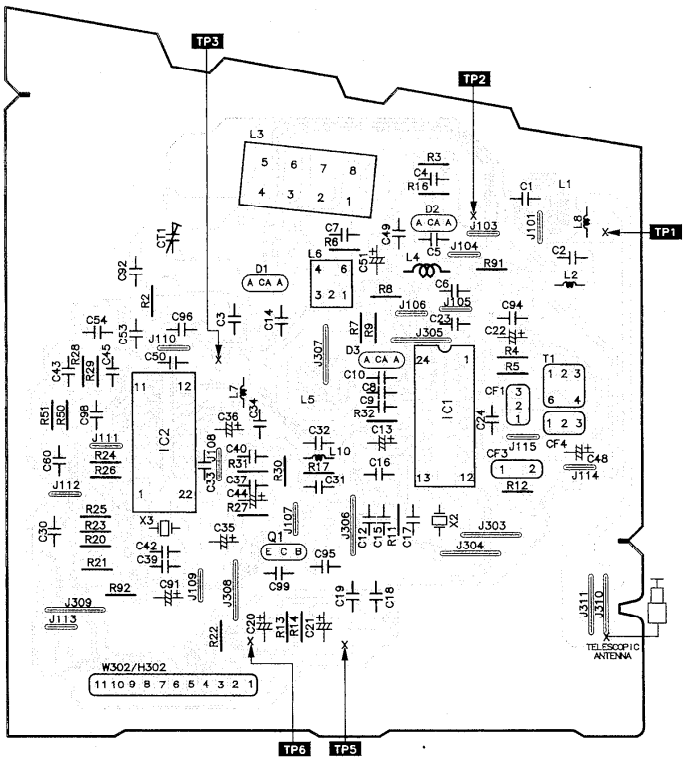
A MAIN P.C.B. (REPX0167A ... P) (REPX0167B ... PC)



Semiconductors Locations Table

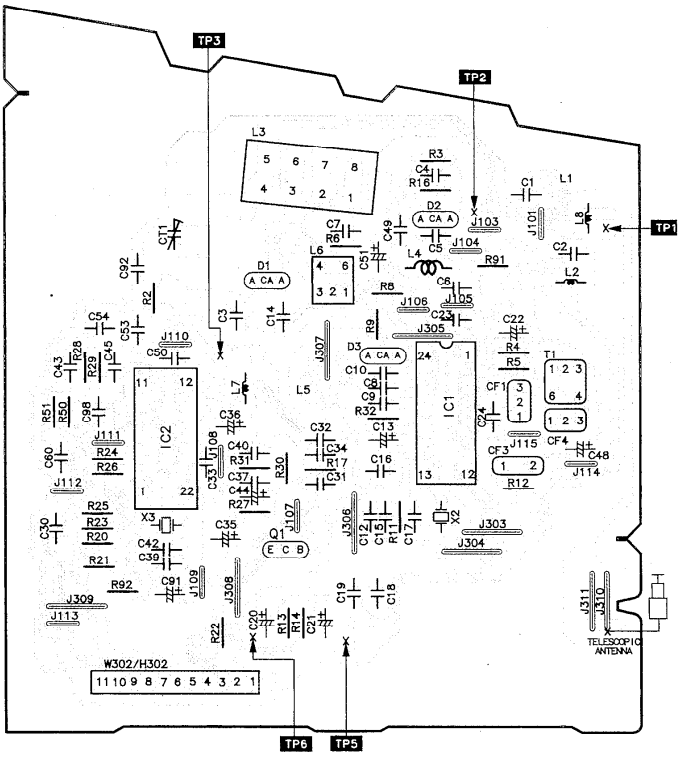
Ref. No	Loc. No	Ref. No	Loc. No
CN303	A4	Q101	B9
CN304	E7	Q103	D5
CP302	F6	Q201	A8
CP303	F3	Q203	D5
D301	E4	Q301	C3
D302	F6	Q303	F3
D304	C3	Q304	C3
D305	C3	Q305	B3
D307	C4	Q306	C4
D308	D4	Q307	B3
D309	E5	Q601	B6
D310	D5	Q602	B6
D601	C7	Q605	A3
D614	F6	Q606	C6
IC301	F4	Q607	D7
IC302	G5	SW301	G3
IC303	D3	SW302	D8
IC601	C7	VR301	B8
IC602	C6	W301	F6
JK301	F2	W302	A6
L301	F3	W602	B3
L310	E7	X602	B7
L608	D8	Z601	C8
L619	C8		

B TUNER P.C.B. (REPX0167A ... P)



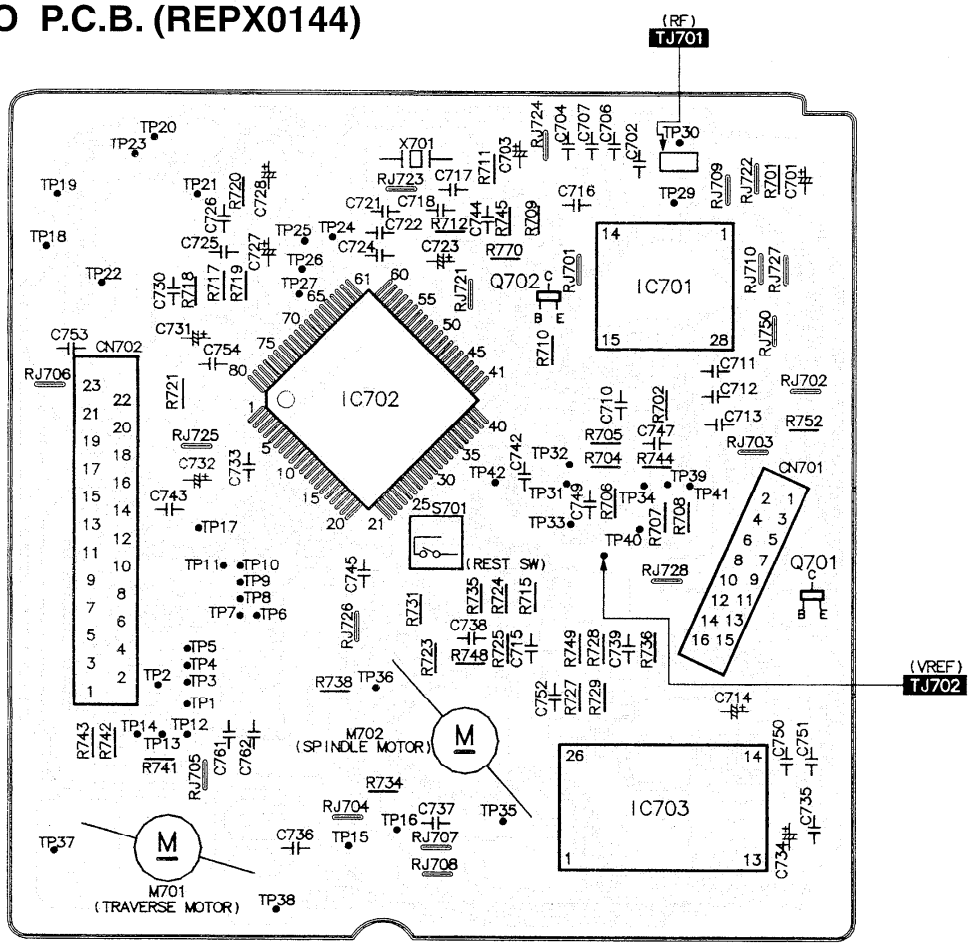
Ref. No	Loc. No
CF1	E3
CF3	E3
CF4	E3
CT1	C2
D1	C2
D2	D2
D3	D3
IC1	D3
IC2	C3
L10	D3
L2	E2
L3	C2
L4	D2
L6	D2
L7	C3
L8	E2
Q1	C4
T1	E3
W302	B5
X2	D4
X3	C4

B TUNER P.C.B. (REPX0167B ... PC)

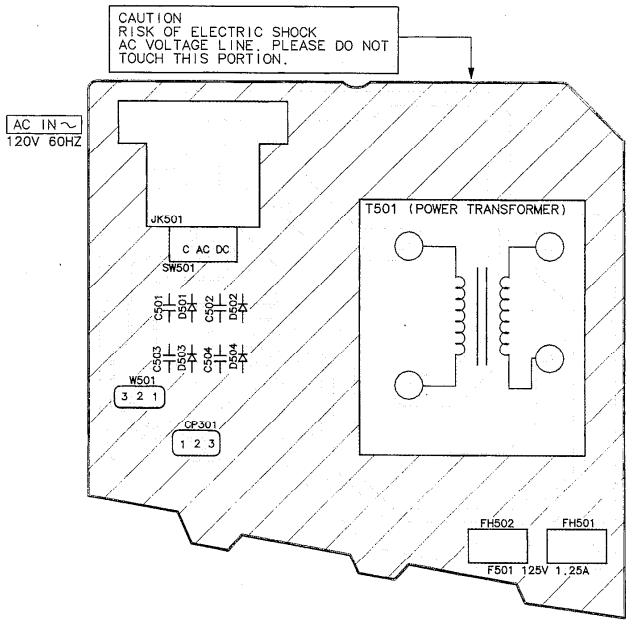


Ref. No	Loc. No
CF1	E3
CF3	E3
CF4	E3
CT1	C2
D1	C2
D2	D2
D3	D3
IC1	D3
IC2	C3
L10	D3
L2	E2
L3	C2
L4	D2
L6	D2
L7	C3
L8	E2
Q1	C4
T1	E3
W302	C5
X2	D4
X3	C4

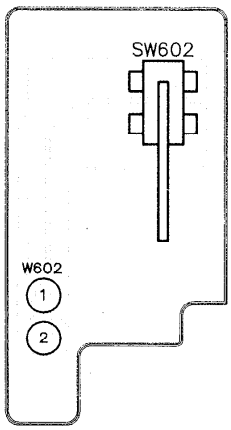
I SERVO P.C.B. (REPX0144)



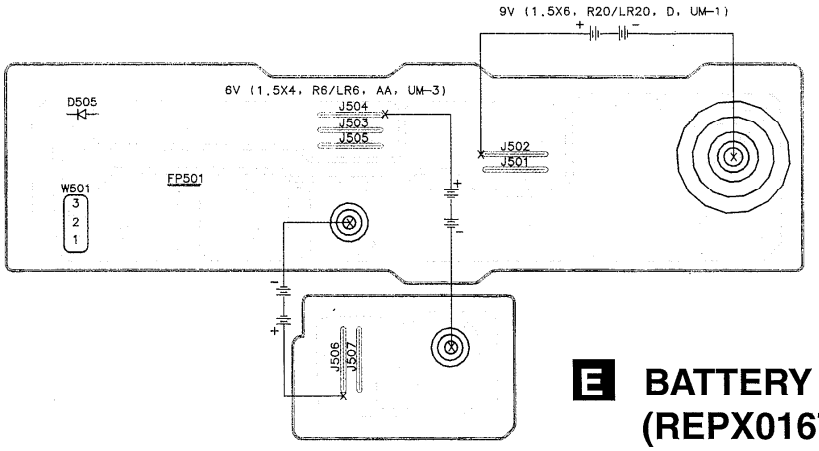
C POWER P.C.B. (REPX0167A ... P) (REPX0167B ... PC)



H LASER SWITCH P.C.B. (REPX0167A ... P) (REPX0167B ... PC)

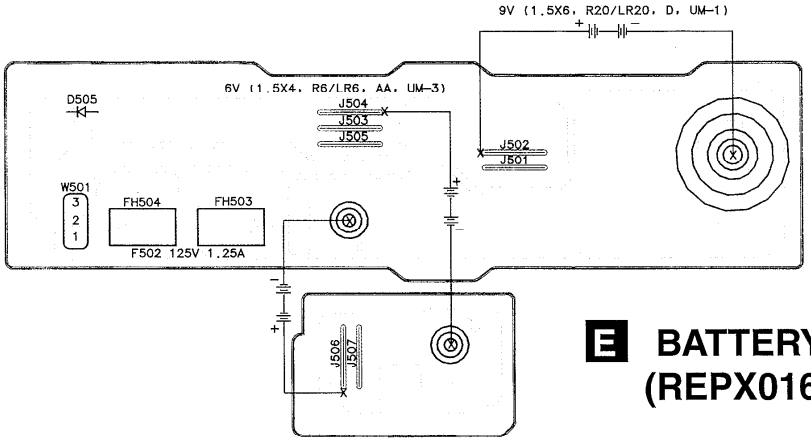


D BATTERY P.C.B. (REPX0167A ... P)



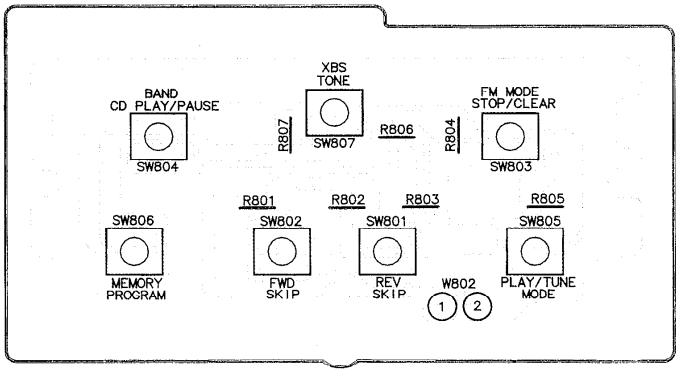
E BATTERY TERMINAL P.C.B. (REPX0167A ... P)

D BATTERY P.C.B. (REPX0167B ... PC)

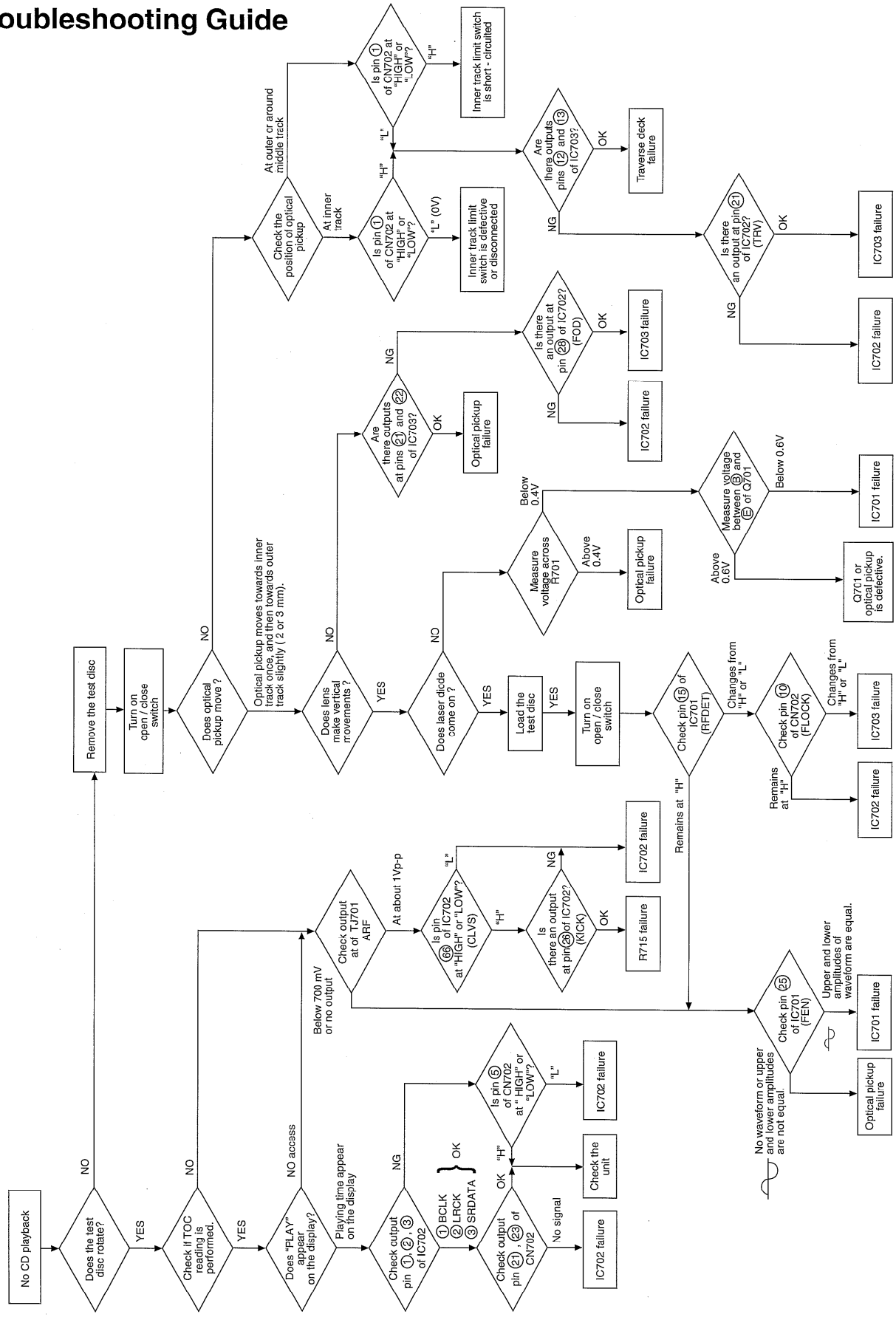


E BATTERY TERMINAL P.C.B. (REPX0167B ... PC)

G KEYBOARD P.C.B. (REPX0167A ... P) (REPX0167B ... PC)



■Troubleshooting Guide



■ Mechanism Parts List

Notes : [M] in Remarks column indicates parts supplied by **MESA**.

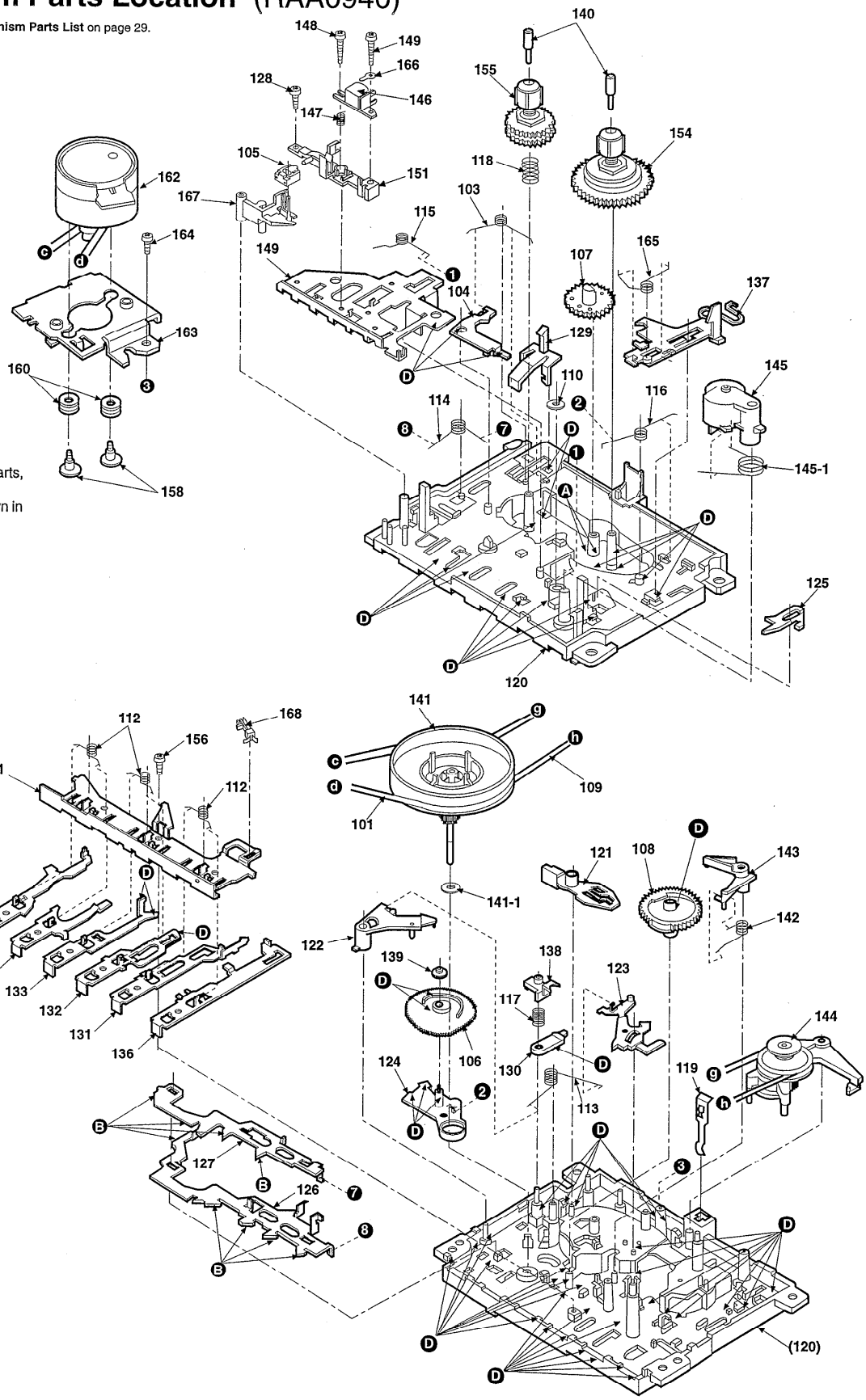
Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
101	RDV0021	MAIN BELT 'D'	[M]
103	RMB0109-1	BRAKE SPRING	[M]
104	RML0116	BRAKE	[M]
105	RBR2CY009	ERASE HEAD	[M]
106	RDG0057-1	IDLER GEAR	[M]
107	RDG0059	FF RELAY GEAR	[M]
108	RDK0005-1	CAM GEAR	[M]
109	RDV0006-1	RF BELT	[M]
110	RHW16009	CAPSTAN WASHER	[M]
111	RMA0109	BACK PLATE	[M]
112	RMB0043-1	ROD OPERATION SPRING	[M]
113	RMB0045-1	A.S. SPRING	[M]
114	RMB0046-1	LOCK PLATE SPRING	[M]
115	RMB0047	HEAD PANEL SPRING	[M]
116	RMB0048-1	IDLER LEVER SPRING	[M]
117	RMB0053	PAUSE LEVER SPRING	[M]
118	RMB0125	BACK TENSION SPRING	[M]
119	RMC0061	PACK SPRING	[M]
120	RFKRCT090P-K	CHASSIS ASS'Y	[M]
121	RML0071-1	SWING LEVER	[M]
122	RML0072-1	AS RELEASE LEVER	[M]

Ref No.	Part No.	Part Name & Description	Remarks
123	RML0073-1	AS PROTECT LEVER	[M]
124	RML0074-1	IDLER LEVER	[M]
125	RML0076	EJECT SELECTION LEVE	[M]
126	RML0077-1	LOCK PLATE	[M]
127	RML0078	FUNCTION PLATE	[M]
128	XTN2+4F	EARTH LUG SCREW	[M]
129	RML0081-2	RECORD SAFETY LEVER	[M]
130	RML0082	PAUSE LEVER	[M]
131	RMM0023-1	PLAY ROD	[M]
132	RMM0024	REW ROD	[M]
133	RMM0025	FF ROD	[M]
134	RMM0026	STOP ROD	[M]
135	RMM0027	PAUSE ROD	[M]
136	RMM0028	REC ROD	[M]
137	RMM0029-1	EJECT SLIDE LEVER	[M]
138	RMR0211-1	PAUSE BUSH	[M]
139	RMR0227	IDLER GEAR BUSH	[M]
140	RMS0055-1	REEL SHAFT	[M]
141	RXF0020	FLYWHEEL ASSY	[M]
141-1	RHW21008	FLYWHEEL WASHER	[M]
142	RMB0044	TRIGGER SPRING	[M]
143	RML0075	TRIGGER LEVER	[M]
144	RXP0014	RF CLUTCH ASSY	[M]

Ref No.	Part No.	Part Name & Description	Remarks
145	RXP0015	PINCH ROLLER ASSY	[M]
145-1	RMB0049	PINCH ARM SPRING	[M]
146	RBR4CM005-T	R/P HEAD	[M]
147	RMB0059	AZIMUT SPRING	[M]
148	RHD20049	AZIMUT SCREW	[M]
149	XTN2+8F	R/P SCREW	[M]
151	RMR0149	HEAD BASE	[M]
154	RXR0004	TAKE UP REEL ASSY	[M]
155	RXR0005	SUPPLY REEL ASSY	[M]
156	XTN2+6J	BACK PLATE SCREW	[M]
158	RHD26002	MOTOR SCREW	[M]
160	RMG0102-1	MOTOR RUB. CUSHION	[M]
162	RFM179ZA	DC MOTOR ASS'Y	[M]
163	RMA0108	MOTOR BK	[M]
164	XTN26+8J	MOTOR BK SCREW	[M]
165	RME0098-2	E SLIDE LEVER SPRING	[M]
166	RJR0033	EARTH LUG	[M]
167	RML0080	ERASE HEAD ARM	[M]
168	RSH1A006-U	LEAF SWITCH	[M]

■ Mechanism Parts Location (RAA0940)

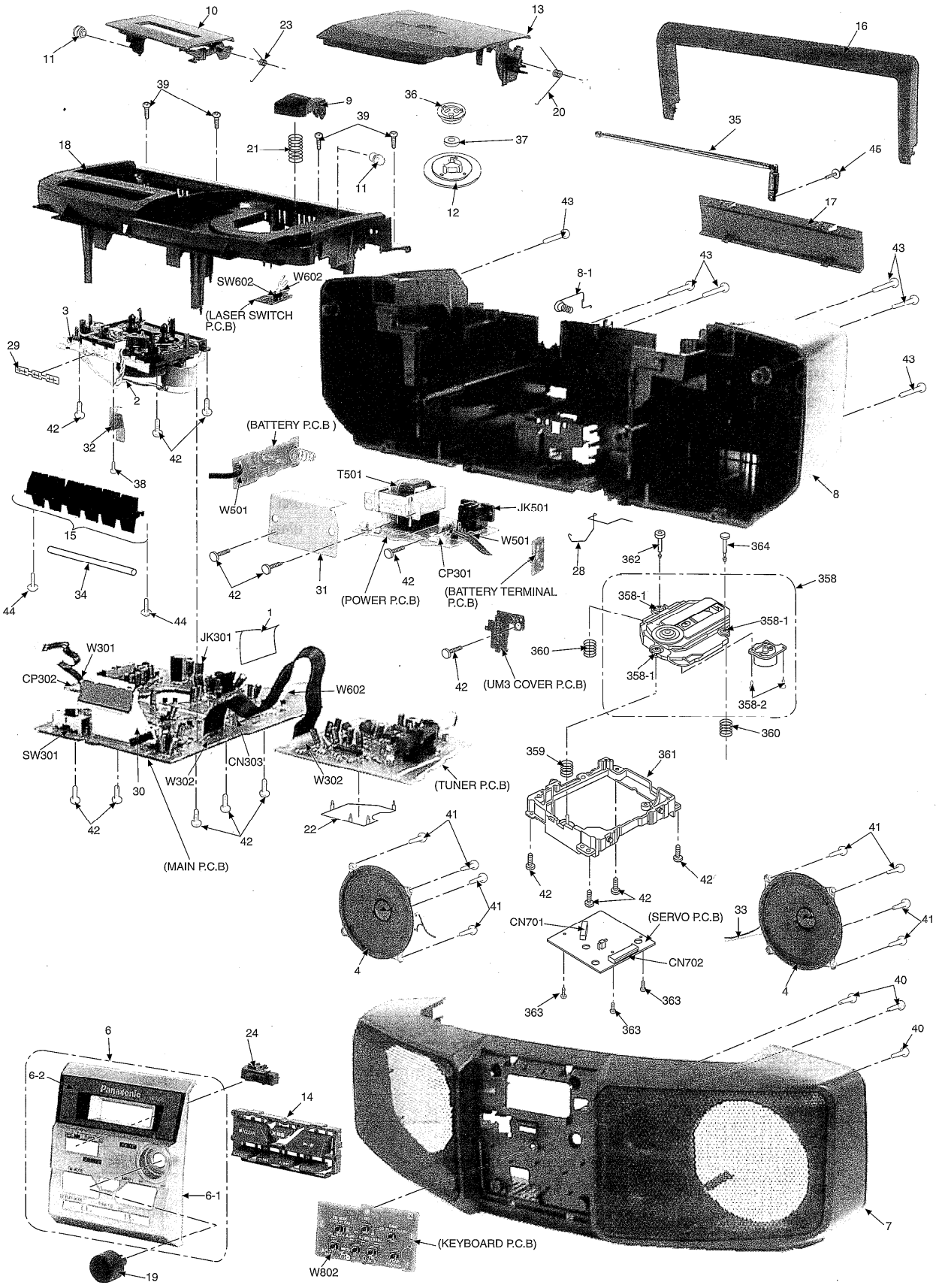
Note : Refer to **Mechanism Parts List** on page 29.



Note :
When changing mechanism parts, apply the specified grease to arrow indicated areas as shown in the drawing.

Ref No.	Part No.
Ⓐ	SZZ0L25
Ⓑ	SZZ0L06
Ⓓ	SZZ0L30

■ Cabinet Parts Location



■ Replacement Parts List

Notes: * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
* The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indication can be used for all areas.
* [M] in Remarks column indicates parts that are supplied by **MESA**.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	REEX0051	CD FFC WIRE	[M]
2	REX0835Y	MOTOR + LEAF SW. WIR	[M]
3	REX0836	TAPE HEAD WIRE	[M]
4	RAS10P10-G	SPEAKER	[M]
6	RFKNXDS5PCS	LCD PANEL ASS'Y	[M]
6-1	RKWX0128-Q	LCD PANEL	[M]
6-2	RGKX0033A-1S	ORNAMENT	[M]
7	RFKGXDS5PCS	FRONT CAB. ASS'Y	[M]
8	RFKHXDS5PCS	BACK CAB. ASS'Y	[M]PC
8	RFKHXDS5P-S	BACK CAB. ASS'Y	[M]P
8-1	RJC91006	BATT. TERMINAL	[M]
9	RGUX0295-H	CD BUTTON	[M]
10	RFKLXDS5PCS	CASS LID ASS'Y	[M]
11	RDG0288	DAMPER GEAR	[M]
12	RFKNXDT37-K	CD CLAMPER ASS'Y	[M]
13	RGKX0034-H	CD LID	[M]
14	RGUX0296A-H	OPERATION BUTTON	[M]
15	RGZX0033-H	MECHA BTN	[M]
16	RKHX0010-H	HANDLE	[M]
17	RKK318ZC7	BATT. COVER	[M]
18	RKQX0009A-H	TOP CAB	[M]
19	RGWX0043-H	VOLUME KNOB	[M]
20	RME0228	CD OPEN SPRING	[M]
21	RMB0509	SPRING (CD BUTTON)	[M]
22	RMVX0044	TUNER SHIELD PLATE	[M]P
23	RME0229	CASSETTE OPEN SPRING	[M]
24	RGVX0019-H	FUNCTION KNOB	[M]
28	RMEX0007	ANTENNA TERMINAL	[M]
29	RMXX0004	MECHA SPACER	[M]
30	RMNX0022	LCD HOLDER	[M]
31	RMA1007	SHIELD PLATE	[M]
32	RMCX0016	RECORD SPRING	[M]
33	RWJ0205430DX	SPEAKER WIRE	[M]
34	SUX102	MECHA BUTTON SHAFT	[M]
35	XEARR210CA-C	ROD ANTENNA	[M]
36	RMQ0152-E	FIXTURE	[M]
37	RHM0001	MAGNET	[M]
38	XTN2+3F	SCREW (REC SPRING)	[M]
39	XTN3+12GFZ	SCREW (TOP CAB)	[M]
40	XTV26+10G	SCREW (ORNAMENT)	[M]
41	XTV3+10G	SCREW (SPEAKER)	[M]
42	XTV3+12G	SCREW (POWER PCB 3 /	[M]
43	XTV3+20G	SCREW (BACK CAB)	[M]
44	XTWS3+8T	SCREW (MECHA BUTTON	[M]
45	XYN3+F15FY	SCREW (ROD. ANT)	[M]
		TRAVERSE DECK	
358	RAE0152Z-M	TRAVERSE	[M]
358-1	SHGD113-1	FLOATING CUSHION	[M]
358-2	SNSD38	TRV MOTOR ASS'Y SCRE	[M]
359	RME0109	FLOATING SPRING B	[M]
360	RME0142	FLOATING SPRING A	[M]
361	RMR0698-K	TRY CHASSIS	[M]
362	RMS0123-1	FIXED PIN B	[M]
363	XTN2+6G	PCB SCREW	[M]
364	RMS0350	FIXED PIN A	[M]
		INTEGRATED CIRCUITS	
IC1	TA2008AN	IC, TUNER	[M]
IC2	LC72131D	IC, PLL	[M]
IC301	BA3313L	IC, DECK PRE AMP	[M]
IC302	S81250SGY-Z	IC, 5V REGULATOR	[M] ⚠
IC303	TA8227P	IC, POWER AMP	[M] ⚠
IC601	M38223M4M168	IC, MICON	[M]
IC602	PST9131T	IC, RESET	[M]
IC701	AN8837SBE1	IC, HEAD AMP	[M]
IC702	MN662746RPK1	IC, LSI	[M]
IC703	AN8780NSBE2	IC	[M]
		TRANSISTORS	
Q1	KTC3199GRTA	TRANSISTOR	[M]
Q101	KTC3199GRTA	TRANSISTOR	[M]
Q103	KTC3199GRTA	TRANSISTOR	[M]
Q201	KTC3199GRTA	TRANSISTOR	[M]
Q203	KTC3199GRTA	TRANSISTOR	[M]
Q301	2SB1566E	TRANSISTOR	[M] ⚠
Q303	KTC3199BLTA	TRANSISTOR	[M]
Q304	KTC3199BLTA	TRANSISTOR	[M] ⚠
Q305	KRA102MTA	TRANSISTOR	[M]
Q306	KTA12710YTA	TRANSISTOR	[M]
Q307	KTC3199BLTA	TRANSISTOR	[M]
Q601	KTC3199GRTA	TRANSISTOR	[M]
Q602	KTC3199GRTA	TRANSISTOR	[M]
Q605	KRA111MTA	TRANSISTOR	[M]
Q606	KTC3199GRTA	TRANSISTOR	[M]
Q607	KRC104MTA	TRANSISTOR	[M]
Q701	2SA1037AKSTX	TRANSISTOR	[M]
Q702	DTC114YKA146	TRANSISTOR	[M]
		DIODES	
D1	KV1520ATS2	DIODE	[M]
D2	KV1360NTM	DIODE	[M]
D3	KV1360NTM	DIODE	[M]
D301	RVD1SS133TA	DIODE	[M]
D302	RB441QT-77	DIODE	[M]
D304	MTZJ7R5CTA	DIODE	[M]
D305	RVD1SS133TA	DIODE	[M]
D306	RVD1SS133TA	DIODE	[M]
D307	RVD1SS133TA	DIODE	[M]
D308	RVD1SS133TA	DIODE	[M]
D309	MTZJ6R2CTA	DIODE	[M]
D310	RVD1SS133TA	DIODE	[M]
D501	RL1N4003S-P	DIODE	[M] ⚠
D502	RL1N4003S-P	DIODE	[M] ⚠
D503	RL1N4003S-P	DIODE	[M] ⚠
D504	RL1N4003S-P	DIODE	[M] ⚠
D505	RVD1SS133TA	DIODE	[M]
D601	RVD1SS133TA	DIODE	[M]
D614	MTZJ5R1BTA	DIODE	[M]
		VARIABLE RESISTORS	
VR301	RRV12B01B14B	VR, VOLUME	[M]
		SWITCHES	
S701	RSH1A043-U	SW, REST	[M]
SW301	RSS2F001-B	SW, RECORD	[M]

Ref No.	Part No.	Part Name & Description	Remarks
SW302	RSS3D002-B	SW, FUNCTION	[M]
SW501	RJJ1SM02-X	SW, AC INLET (JK501)	[M] ⚠
SW602	RSH1A033-U	SW, CD LEAF	[M]
SW801	EVQPAD05R	SW, REW SKIP	[M]
SW802	EVQPAD05R	SW, FWD SKIP	[M]
SW803	EVQPAD05R	SW, FM MODE/STOP/CLR	[M]
SW804	EVQPAD05R	SW, BAND/CD PLAY/PAU	[M]
SW805	EVQPAD05R	SW, PLAY/TUNE MODE	[M]
SW806	EVQPAD05R	SW, MEMORY PROGRAM	[M]
SW807	EVQPAD05R	SW, TONE	[M]
		CONNECTORS	
CN303	RJS1A6823-J	FFC CONN (CD)	[M]
CN304	RJT029W04V	4P CONN (LEAF SW)	[M]
CN701	RJS2A6016	16P FFC CONNECTOR	[M]
CN702	RJS1A6723-1Q	23P FFC CONNECTOR	[M]
CP301	RJP3G9YA	3P CONN (POWER-MAIN)	[M]
CP302	RJS5T7ZA	SPEAKER CONNECTOR	[M]
CP303	RJP4G18ZA	4P CONN (TAPE HEAD)	[M]
		TRIMMER	
CT1	ECRLA010A53R	TRIMMER CAPACITOR	[M]
		COILS & TRANSFORMERS	
L2	RLQY30S1W-F	FM COIL	[M]
L3	RLV2C041-0	FERRITE ANTENNA	[M]
L4	RLD4Y45-F	FM COIL	[M]

Ref No.	Part No.	Part Name & Description	Remarks
L6	RL02B131-T	AM OSC COIL	[M]
L7	RLQZP101KT-Y	INDUCTOR	[M]
L8	RLQY30S1W-F	FM COIL	[M]
L10	RLQZPR22KT-Y	INDUCTOR	[M]P
L301	RL09B17-T	BIAS COIL	[M]
L310	RLQZB100KT-D	INDUCTOR	[M]
L608	RLQZP100KT-Y	INDUCTOR	[M]
L619	RLQZP2R2KT-Y	INDUCTOR	[M]
T1	RLI2B015-T	AM IFT	[M]
T501	RTP1K1C008-X	TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z601	RSL5215-T	LCD	[M]
		CERAMIC FILTERS	
CF1	RLFFETNL02AL	FM CERAMIC FILTER	[M]
CF3	RLFDFT20AL	FM DISCRIMINATOR	[M]
CF4	RLFCFA450L4B	AM FILTER	[M]
		OSCILLATORS	
X2	RSXZ456KM01	CRYSTAL	[M]
X3	RSXD7M20C01	CRYSTAL	[M]
X602	RSXZ4M19Z01T	MICON CRYSTAL	[M]
X701	RSXZ16M9M01T	CERAMIC OSC	[M]
		FUSES & FUSES HOLDER	
F501	XBA1C12NBAL	FUSE (1.25A)	[M] ⚠

Ref No.	Part No.	Part Name & Description	Remarks
F502	XBA1C12NBAL	FUSE (1.25A)	[M]PC⚠
FH501	RJF0028	FUSE CLIP	[M]
FH502	RJF0028	FUSE CLIP	[M]
FH503	RJF0028	FUSE CLIP	[M]PC
FH504	RJF0028	FUSE CLIP	[M]PC
FP501	RSFMB20KT-L	FUSE PROTECTOR	[M]P ⚠
		HOLDERS	
H302	RJS1A5511	WIRE HOLDER (TUNER)	[M]
		JACKS	
JK301	RJJ37TK01-1C	JK, HEADPHONE	[M]
JK501	RJJ1SM02-X	JK, AC INLET	[M] ⚠
		WIRES	
W301	REXX0197	MAIN TO POWER WIRE	[M]
W302	RWJ0111210QS	MAIN TO TUNER WIRE	[M]
W501	RWJ0103190SS	BATTERY WIRE	[M]
W602	RWJ7102210KK	CD LEAF SW WIRE	[M]

■ Resistors & Capacitors

Notes : • Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
• The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indication can be used for all areas.
• [M] in Remarks column indicates parts that are supplied by **MESA**.
• Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
• Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)

Ref No.	Part No.	Values & Remarks
	RESISTORS	
R2	ERDS2TJ103T	10K 1/4W [M]
R3	ERDS2TJ332T	3.3K 1/4W [M]
R4	ERDS2TJ472T	4.7K 1/4W [M]
R5	ERDS2TJ221T	220 1/4W [M]
R6	ERDS2TJ104T	100K 1/4W [M]
R7	ERDS2TJ682T	6.8K 1/4W [M]P
R8	ERDS2TJ104T	100K 1/4W [M]

Ref No.	Part No.	Values & Remarks
R9	ERDS2TJ104T	100K 1/4W [M]
R11	ERDS2TJ223T	22K 1/4W [M]
R12	ERDS2TJ103T	10K 1/4W [M]
R13	ERDS2TJ474T	470K 1/4W [M]
R14	ERDS2TJ474T	470K 1/4W [M]
R16	ERDS2TJ104T	100K 1/4W [M]
R17	ERDS2TJ222T	2.2K 1/4W [M]
R20	ERDS2TJ223T	22K 1/4W [M]
R21	ERDS2TJ472T	4.7K 1/4W [M]

Ref No.	Part No.	Values & Remarks
R22	ERDS2TJ102T	1K 1/4W [M]
R23	ERDS2TJ223T	22K 1/4W [M]
R24	ERDS2TJ103T	10K 1/4W [M]
R25	ERDS2TJ223T	22K 1/4W [M]
R26	ERDS2TJ103T	10K 1/4W [M]
R27	ERDS2TJ332T	3.3K 1/4W [M]
R28	ERDS2TJ223T	22K 1/4W [M]
R29	ERDS2TJ103T	10K 1/4W [M]
R30	ERDS2TJ472T	4.7K 1/4W [M]

Ref No.	Part No.	Values & Remarks
R31	ERDS2TJ222T	2.2K 1/4W [M]
R32	ERDS2TJ331T	330 1/4W [M]PC
R32	ERDS2TJ561T	560 1/4W [M]P
R50	ERDS2TJ104T	100K 1/4W [M]
R51	ERDS2TJ103T	10K 1/4W [M]
R91	ERDS2TJ101T	100 1/4W [M]P
R91	ERDS2TJ330T	33 1/4W [M]PC
R92	ERDS2TJ472T	4.7K 1/4W [M]
R101	ERDS2TJ183T	18K 1/4W [M]

Ref No.	Part No.	Values & Remarks
R102	ERDS2TJ272T	2.7K 1/4W [M]
R103	ERDS2TJ224T	220K 1/4W [M]
R104	ERDS2TJ682T	6.8K 1/4W [M]
R105	ERDS2TJ222T	2.2K 1/4W [M]
R106	ERDS2TJ680T	68 1/4W [M]
R108	ERDS2TJ562T	5.6K 1/4W [M]
R110	ERDS2TJ682T	6.8K 1/4W [M]
R111	ERDS2TJ562T	5.6K 1/4W [M]
R113	ERDS2TJ393T	39K 1/4W [M]
R114	ERDS2TJ103T	10K 1/4W [M]
R115	ERDS2TJ472T	4.7K 1/4W [M]
R116	ERDS2TJ222T	2.2K 1/4W [M]
R117	ERDS2TJ122T	1.2K 1/4W [M]
R123	ERDS2TJ472T	4.7K 1/4W [M]
R125	ERDS2TJ680T	68 1/4W [M]
R127	ERDS2TJ181T	180 1/4W [M]
R201	ERDS2TJ183T	18K 1/4W [M]
R202	ERDS2TJ272T	2.7K 1/4W [M]
R203	ERDS2TJ224T	220K 1/4W [M]
R204	ERDS2TJ682T	6.8K 1/4W [M]
R205	ERDS2TJ222T	2.2K 1/4W [M]
R206	ERDS2TJ680T	68 1/4W [M]
R208	ERDS2TJ562T	5.6K 1/4W [M]
R210	ERDS2TJ682T	6.8K 1/4W [M]
R211	ERDS2TJ562T	5.6K 1/4W [M]
R213	ERDS2TJ393T	39K 1/4W [M]
R214	ERDS2TJ103T	10K 1/4W [M]
R215	ERDS2TJ472T	4.7K 1/4W [M]
R216	ERDS2TJ222T	2.2K 1/4W [M]
R217	ERDS2TJ122T	1.2K 1/4W [M]
R223	ERDS2TJ472T	4.7K 1/4W [M]
R225	ERDS2TJ680T	68 1/4W [M]
R227	ERDS2TJ181T	180 1/4W [M]
R301	ERDS2TJ223T	22K 1/4W [M]
R302	ERDS2TJ101T	100 1/4W [M]
R304	ERDS2TJ331T	330 1/4W [M]
R305	ERDS2TJ8R2T	8.2 1/4W [M]
R306	ERDS2TJ473T	47K 1/4W [M]
R307	ERDS2TJ221T	220 1/4W [M]
R308	ERD2FCVJ4R7T	4.7 1/4W [M]
R310	ERDS2TJ393T	39K 1/4W [M]
R311	ERDS2TJ393T	39K 1/4W [M]
R312	ERDS2TJ222T	2.2K 1/4W [M]
R313	ERDS2TJ473T	47K 1/4W [M]
R314	ERDS2TJ331T	330 1/4W [M]
R315	ERDS2TJ122T	1.2K 1/4W [M]
R316	ERDS2TJ331T	330 1/4W [M]
R317	ERDS2TJ151T	150 1/4W [M]
R318	ERDS2TJ103T	10K 1/4W [M]
R319	ERDS2TJ151T	150 1/4W [M]
R320	ERDS2TJ472T	4.7K 1/4W [M]
R323	ERDS2TJ222T	2.2K 1/4W [M]
R324	ERDS2TJ333T	33K 1/4W [M]
R326	ERDS2TJ223T	22K 1/4W [M]
R327	ERDS2TJ223T	22K 1/4W [M]
R330	ERDS2TJ474T	470K 1/4W [M]
R335	ERDS2TJ103T	10K 1/4W [M]
R336	ERDS2TJ122T	1.2K 1/4W [M]
R601	ERDS2TJ473T	47K 1/4W [M]
R602	ERDS2TJ473T	47K 1/4W [M]
R603	ERDS2TJ473T	47K 1/4W [M]
R604	ERDS2TJ153T	15K 1/4W [M]
R605	ERDS2TJ334T	330K 1/4W [M]
R607	ERDS2TJ104T	100K 1/4W [M]
R608	ERDS2TJ224T	220K 1/4W [M]
R613	ERDS2TJ333T	33K 1/4W [M]
R614	ERDS2TJ104T	100K 1/4W [M]
R615	ERDS2TJ104T	100K 1/4W [M]
R617	ERDS2TJ104T	100K 1/4W [M]
R624	ERDS2TJ472T	4.7K 1/4W [M]
R625	ERDS2TJ472T	4.7K 1/4W [M]
R628	ERDS2TJ105T	1M 1/4W [M]
R634	ERDS2TJ102T	1K 1/4W [M]
R635	ERDS2TJ102T	1K 1/4W [M]
R636	ERDS2TJ102T	1K 1/4W [M]
R637	ERDS2TJ333T	33K 1/4W [M]
R638	ERDS2TJ473T	47K 1/4W [M]
R639	ERDS2TJ224T	220K 1/4W [M]
R640	ERDS2TJ473T	47K 1/4W [M]
R641	ERDS2TJ102T	1K 1/4W [M]
R642	ERDS2TJ102T	1K 1/4W [M]
R643	ERDS2TJ102T	1K 1/4W [M]
R645	ERDS2TJ102T	1K 1/4W [M]
R651	ERDS2TJ562T	5.6K 1/4W [M]
R652	ERDS2TJ152T	1.5K 1/4W [M]
R701	ERJ6GEYJ4R7A	4.7 1/10W [M]
R702	ERJ6GEYJ822A	8.2K 1/10W [M]
R704	ERJ6GEYJ102A	1K 1/10W [M]
R705	ERJ6GEYJ124A	120K 1/10W [M]
R706	ERJ6GEYJ102A	1K 1/10W [M]
R707	ERJ6GEYJ474A	470K 1/10W [M]
R708	ERJ6GEYJ154A	150K 1/10W [M]
R709	ERJ6GEYJ473A	47K 1/10W [M]
R710	ERJ6GEYJ103A	10K 1/10W [M]
R711	ERJ6GEYJ154A	150K 1/10W [M]
R712	ERJ6GEYJ221A	220 1/10W [M]
R715	ERJ6GEYJ122A	1.2K 1/10W [M]
R717	ERJ6GEYJ102A	1K 1/10W [M]
R718	ERJ6GEYJ102A	1K 1/10W [M]
R719	ERJ6GEYJ102A	1K 1/10W [M]
R720	ERJ6GEYJ102A	1K 1/10W [M]
R721	ERJ6GEYJ101A	100 1/10W [M]
R723	ERJ6GEYJ272A	2.7K 1/10W [M]
R724	ERJ6GEYJ333A	33K 1/10W [M]
R725	ERJ6GEYJ122A	1.2K 1/10W [M]
R727	ERJ6GEYJ682A	6.8K 1/10W [M]
R728	ERJ6GEYJ682A	6.8K 1/10W [M]
R729	ERJ6GEYJ562A	5.6K 1/10W [M]
R731	ERJ6GEYJ123A	12K 1/10W [M]
R734	ERJ6GEYJ101A	100 1/10W [M]
R735	ERJ6GEYJ101A	100 1/10W [M]
R736	ERJ6GEYJ101A	100 1/10W [M]
R738	ERJ6GEYJ223A	22K 1/10W [M]
R741	ERJ6GEYJ562A	5.6K 1/10W [M]
R742	ERJ6GEYJ562A	5.6K 1/10W [M]
R743	ERJ6GEYJ562A	5.6K 1/10W [M]
R744	ERJ6GEYJ104A	100K 1/10W [M]
R745	ERJ6GEYJ155A	1.5M 1/10W [M]
R748	ERJ6GEYJ272A	2.7K 1/10W [M]
R749	ERJ6GEYJ682A	6.8K 1/10W [M]
R752	ERJ8GEYJ220A	22 1/8W [M]
R770	ERJ6GEYJ224A	220K 1/10W [M]
R801	ERDS2TJ101T	100 1/4W [M]
R802	ERDS2TJ152T	1.5K 1/4W [M]
R803	ERDS2TJ222T	2.2K 1/4W [M]
R804	ERDS2TJ272T	2.7K 1/4W [M]
R805	ERDS2TJ392T	3.9K 1/4W [M]
R806	ERDS2TJ562T	5.6K 1/4W [M]
R807	ERDS2TJ822T	8.2K 1/4W [M]
	CAPACITORS	
C1	ECBT1H470J5	47P 50V [M]
C2	ECBT1H100JC5	10P 50V [M]
C3	ECFR1C223KR	0.022 16V [M]
C4	ECBT1H102KB5	1000P 50V [M]
C5	ECBT1H5R6KC5	5.6P 50V [M]
C6	ECBT1H102KB5	1000P 50V [M]
C7	ECBT1H120JC5	12P 50V [M]
C8	ECBT1H102KB5	1000P 50V [M]
C9	ECBT1H102KB5	1000P 50V [M]
C10	ECBT1H100JC5	10P 50V [M]
C12	ECBT1H331KB5	330P 50V [M]
C13	ECEA1CU100B	10 16V [M]
C14	ECBT1H102KB5	1000P 50V [M]
C15	ECFR1C683MR	0.068 16V [M]
C16	ECFR1C823MR	0.082 16V [M]
C17	ECFR1C823MR	0.082 16V [M]
C18	ECFR1C333MR	0.033 16V [M]
C19	ECFR1C333MR	0.033 16V [M]
C20	ECEA1HU010B	1 50V [M]
C21	ECEA1HU010B	1 50V [M]
C22	ECEA1HU4R7B	4.7 50V [M]
C23	ECFR1C333MR	0.033 16V [M]
C24	ECFR1C333MR	0.033 16V [M]
C30	ECBT1H331KB5	330P 50V [M]
C31	ECBT1C103MS5	0.01 16V [M]
C32	ECBT1H102KB5	1000P 50V [M]
C33	ECBT1H102KB5	1000P 50V [M]
C34	ECBT1H102KB5	1000P 50V [M]
C35	ECEA1AU101B	100 10V [M]
C36	ECEA1AU101B	100 10V [M]
C37	ECBT1C103MS5	0.01 16V [M]
C39	ECBT1H120JC5	12P 50V [M]
C40	ECBT1C222MR5	2200P 16V [M]
C42	ECBT1H180JC5	18P 50V [M]
C43	ECBT1H101KB5	100P 50V [M]
C44	ECEA1HU2R2B	2.2 50V [M]
C45	ECBT1H102KB5	1000P 50V [M]
C48	ECEA1HU010B	1 50V [M]
C49	ECBT1H102KB5	1000P 50V [M]
C50	ECBT1H102KB5	1000P 50V [M]
C51	ECEA1HU010B	1 50V [M]
C53	ECBT1H102KB5	1000P 50V [M]
C54	ECBT1H102KB5	1000P 50V [M]
C60	ECBT1H102KB5	1000P 50V [M]
C91	ECEA1HU2R2B	2.2 50V [M]
C92	ECBT1H331KB5	330P 50V [M]
C94	ECBT1H102KB5	1000P 50V [M]P
C95	ECBT1H102KB5	1000P 50V [M]P
C96	ECBT1H102KB5	1000P 50V [M]P
C98	ECBT1H331KB5	330P 50V [M]
C99	ECBT1H102KB5	1000P 50V [M]P
C101	ECBT1C272MR5	2700P 16V [M]
C102	ECEA1CU100B	10 16V [M]
C103	ECBT0J223MS5	0.022 6.3V [M]
C104	ECEA1AU101B	100 10V [M]
C106	ECBT1H681KB5	680P 50V [M]
C109	ECEA1HUR22B	0.22 50V [M]
C110	ECEA1HUR47B	0.47 50V [M]
C112	ECEA1HU2R2B	2.2 50V [M]
C113	ECBT1C103MS5	0.01 16V [M]

Ref No.	Part No.	Values & Remarks
C116	ECBT1H102KB5	1000P 50V [M]
C117	ECEA1AU101B	100 10V [M]
C118	ECEA1AU101B	100 10V [M]
C120	ECEA1AU471B	470 10V [M]
C121	ECBT1H102KB5	1000P 50V [M]
C122	ECBT1C332MR5	3300P 16V [M]
C125	RCQB2A104KM	0.1 100V [M]
C130	ECBT1C472KR5	4700P 16V [M]
C201	ECBT1C272MR5	2700P 16V [M]
C202	ECEA1CU100B	10 16V [M]
C203	ECBT0J223MS5	0.022 6.3V [M]
C204	ECEA1AU101B	100 10V [M]
C206	ECBT1H681KB5	680P 50V [M]
C209	ECEA1HUR22B	0.22 50V [M]
C210	ECEA1HUR47B	0.47 50V [M]
C212	ECEA1HU2R2B	2.2 50V [M]
C213	ECBT1C103MS5	0.01 16V [M]
C216	ECBT1H102KB5	1000P 50V [M]
C217	ECEA1AU101B	100 10V [M]
C218	ECEA1AU101B	100 10V [M]
C220	ECEA1AU471B	470 10V [M]
C221	ECBT1H102KB5	1000P 50V [M]
C222	ECBT1C332MR5	3300P 16V [M]
C225	RCQB2A104KM	0.1 100V [M]
C230	ECBT1C472KR5	4700P 16V [M]
C301	ECEA1AU101B	100 10V [M]
C302	ECEA1AU221B	220 10V [M]
C305	ECEA1HU2R2B	2.2 50V [M]
C307	RCQB2A392KM	3900P 100V [M]
C308	ECEA1AU101B	100 10V [M]
C309	ECBT1C682MR5	6800P 16V [M]
C310	ECBT1H102KB5	1000P 50V [M]
C313	ECBT1H561KB5	560P 50V [M]
C314	ECEA1AU470B	47 10V [M]
C315	ECBT1H102KB5	1000P 50V [M]
C316	ECEA1AU101B	100 10V [M]
C317	ECA1CM222EV	22 16V [M]
C318	ECEA1HU4R7B	4.7 50V [M]
C319	ECBT1H102KB5	1000P 50V [M]
C320	ECEA1AU220B	22 10V [M]
C323	ECEA1CU220B	22 16V [M]
C324	ECBT1H102KB5	1000P 50V [M]
C325	ECEA1CU101B	100 16V [M]
C330	ECBT1H104ZF5	0.1 50V [M]
C331	ECEA1AU221B	220 10V [M]
C333	ECBT1H104ZF5	0.1 50V [M]
C501	ECKR1H103ZF5	0.01 50V [M]
C502	ECKR1H103ZF5	0.01 50V [M]

Ref No.	Part No.	Values & Remarks
C503	ECKR1H103ZF5	0.01 50V [M]
C504	ECKR1H103ZF5	0.01 50V [M]
C602	ECBT1H102KB5	1000P 50V [M]
C604	ECFR1C104MR	0.1 16V [M]
C605	ECEA1HU010B	1 50V [M]
C617	ECBT1H102KB5	1000P 50V [M]
C618	ECBT1H102KB5	1000P 50V [M]
C619	ECBT1H102KB5	1000P 50V [M]
C620	ECBT1H820KB5	82P 50V [M]
C621	ECBT1H101KB5	100P 50V [M]
C622	ECBT1H102KB5	1000P 50V [M]
C623	ECEA1AU101B	100 10V [M]
C624	ECBT1H680J5	68P 50V [M]
C625	ECBT1H820KB5	82P 50V [M]
C627	ECBT1H561KB5	560P 50V [M]
C629	ECBT1H102KB5	1000P 50V [M]
C632	ECBT1H331KB5	330P 50V [M]
C635	ECBT1H331KB5	330P 50V [M]
C650	ECBT1H330J5	33P 50V [M]
C651	ECBT1H330J5	33P 50V [M]
C652	ECBT1H101KB5	100P 50V [M]
C654	ECBT1H330J5	33P 50V [M]
C655	ECBT1H330J5	33P 50V [M]
C656	ECBT1H101KB5	100P 50V [M]
C657	ECBT1H330J5	33P 50V [M]
C658	ECBT1C103MS5	0.01 16V [M]
C660	ECBT1H331KB5	330P 50V [M]
C662	ECBT1H102KB5	1000P 50V [M]
C664	ECBT1H102KB5	1000P 50V [M]
C667	ECBT1H102KB5	1000P 50V [M]
C668	ECBT1H331KB5	330P 50V [M]
C669	ECBT1H331KB5	330P 50V [M]
C670	ECBT1H102KB5	1000P 50V [M]
C671	ECBT1H561KB5	560P 50V [M]
C672	ECBT1H561KB5	560P 50V [M]
C701	ECEA0JKA330I	33 6.3V [M]
C702	ECUZ1E104MBN	0.1 25V [M]
C703	ECEA0JKA101I	100 6.3V [M]
C704	ECUZ1E104MBN	0.1 25V [M]
C706	ECUZ1H272KBN	2700P 50V [M]
C707	ECUZ1E273KBN	0.027 25V [M]
C710	ECUV1H151KCN	150P 50V [M]
C711	ECUZ1E104ZFN	0.1 25V [M]
C712	ECUZ1E104ZFN	0.1 25V [M]
C713	ECUZ1E104MBN	0.1 25V [M]
C714	ECEA0JKA101I	100 6.3V [M]
C715	ECUZ1H182KBN	1800P 50V [M]
C716	ECUZ1H821KBN	820P 50V [M]

Ref No.	Part No.	Values & Remarks
C717	ECUZ1E104ZFN	0.1 25V [M]
C718	ECUZ1C224KBN	0.22 16V [M]
C721	ECUZ1H150JCN	15P 50V [M]
C722	ECUZ1H150JCN	15P 50V [M]
C723	ECEA1AKA221I	220 10V [M]
C724	ECUZ1E104MBN	0.1 25V [M]
C725	ECUZ1H102KBN	1000P 50V [M]
C726	ECUZ1H102KBN	1000P 50V [M]
C727	ECA1HAK010XI	1 50V [M]
C728	ECA1HAK010XI	1 50V [M]
C730	ECUZ1E104ZFN	0.1 25V [M]
C731	ECEA0JKA221I	220 6.3V [M]
C732	ECEA0JKA221I	220 6.3V [M]
C733	ECUZ1E104MBN	0.1 25V [M]
C734	ECEA1AKA221I	220 10V [M]
C735	ECUZ1E104ZFN	0.1 25V [M]
C736	ECUZ1E104ZFN	0.1 25V [M]
C737	ECUZ1E104ZFN	0.1 25V [M]
C738	ECUZ1E104MBN	0.1 25V [M]
C739	ECUZ1H103KBN	0.01 50V [M]
C742	ECUZ1E273KBN	0.027 25V [M]
C743	ECUZ1E104ZFN	0.1 25V [M]
C744	ECUZ1E123KBN	0.012 25V [M]
C745	ECUZ1C473KBN	0.047 16V [M]
C747	ECUV1H221KBN	220P 50V [M]
C749	ECUZ1H222KBN	2200P 50V [M]
C750	ECUZ1E104MBN	0.1 25V [M]
C751	ECUZ1E104MBN	0.1 25V [M]
C752	ECUZ1H102KBN	1000P 50V [M]
C753	ECUZ1H471KBM	470P 50V [M]
C754	ECUZ1H471KBN	470P 50V [M]
C761	ECUZ1H471KBN	470P 50V [M]
C762	ECUZ1H471KBN	470P 50V [M]
	CHIP JUMPERS	
RJ701	ERJ6GEY0R00A	0 1/10W [M]
RJ702	ERJ8GEY0R00A	0 1/8W [M]
RJ703	ERJ8GEY0R00A	0 1/8W [M]
RJ704	ERJ8GEY0R00A	0 1/8W [M]
RJ705	ERJ8GEY0R00A	0 1/8W [M]
RJ706	ERJ8GEY0R00A	0 1/8W [M]
RJ707	ERJ8GEY0R00A	0 1/8W [M]
RJ708	ERJ8GEY0R00A	0 1/8W [M]
RJ709	ERJ8GEY0R00A	0 1/8W [M]
RJ710	ERJ8GEY0R00A	0 1/8W [M]
RJ721	ERJ6GEY0R00A	0 1/10W [M]
RJ722	ERJ6GEY0R00A	0 1/10W [M]

Ref No.	Part No.	Values & Remarks
RJ723	ERJ6GEY0R00A	0 1/10W [M]
RJ724	ERJ6GEY0R00A	0 1/10W [M]
RJ725	ERJ6GEY0R00A	0 1/10W [M]
RJ726	ERJ6GEY0R00A	0 1/10W [M]
RJ727	ERJ6GEY0R00A	0 1/10W [M]
RJ728	ERJ6GEY0R00A	0 1/10W [M]
RJ750	ERJ6GEY0R00A	0 1/10W [M]
	TEST JUMPERS	
TJ701	EYF8CU	TEST JUMPER[M]

■ Packing Materials & Accessories

Notes : * Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
* The parenthesized in the Remarks columns specify the areas. (Refer to the cover page for area.)
* Parts without these indication can be used for all areas.
* [M] in Remarks column indicates parts supplied by **MESA**.
* Reference for O/I book languages are as follows :

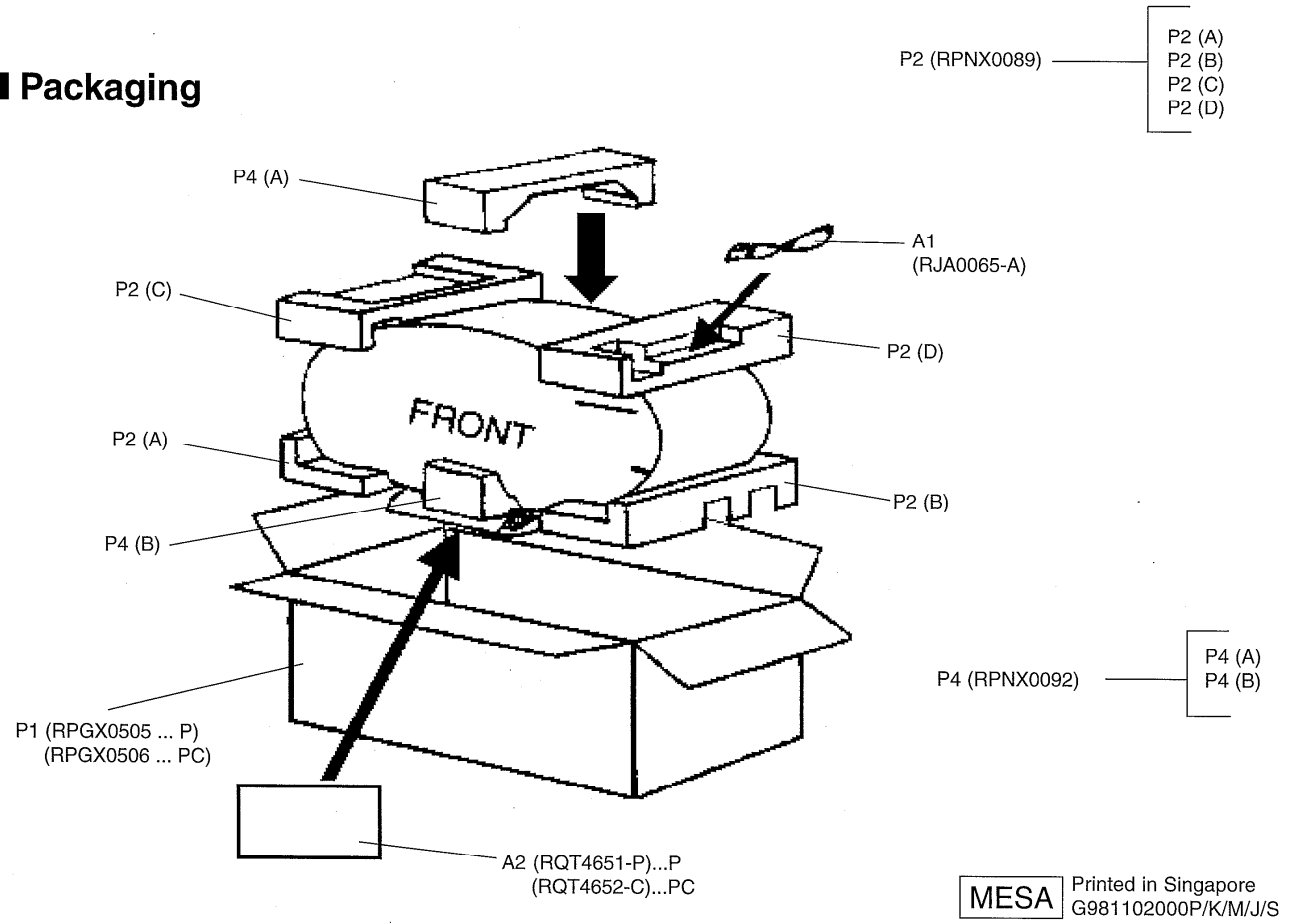
Ar : Arabic	Cf : Canadian French	Ch : Chinese	Cz : Czech	Da : Danish
Du : Dutch	En : English	Fr : French	Ge : German	It : Italian
Ko : Korean	Po : Polish	Ru : Russian	Sp : Spanish	Sw : Swedish

Ref No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPGX0505	PACKING CASE	[M]P
P1	RPGX0506	PACKING CASE	[M]PC
P2	RPNX0089	POLYFOAM	[M]
P3	RPH0131	MIRAMAT SHEET	[M]
P4	RPNX0092	CENTER POLYFOAM	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		ACCESSORIES	
A1	RJA0065-A	AC CORD (UL/CSA)	[M] ⚠
A2	RQT4651-P	O/I BOOK (En)	[M]
A2	RQT4652-C	O/I BOOK (Cf)	[M]PC

Ref No.	Part No.	Part Name & Description	Remarks

■ Packaging



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